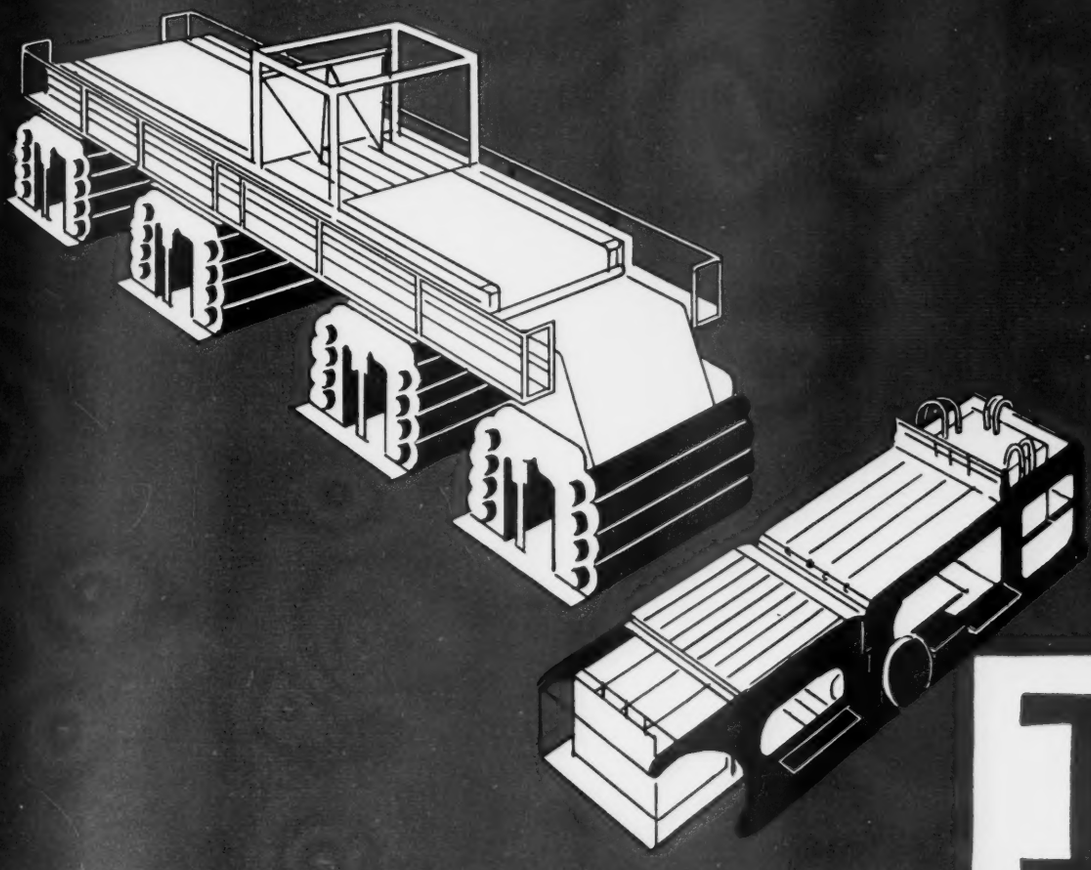
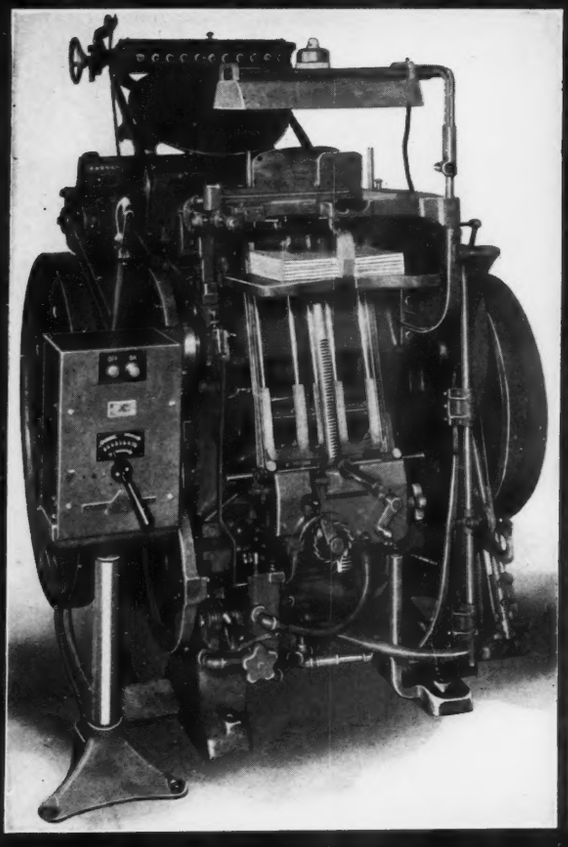
PRINTING EQUIPMENT ENGINEER



AUGUST 1937

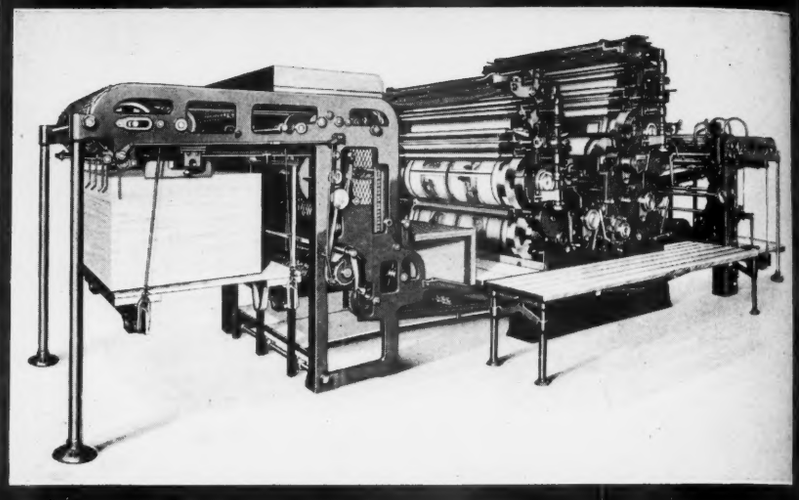
A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

In CLEVELAND . . .
CLINE-WESTINGHOUSE
Motor and Control Equipment



is STANDARD with
Leading Press Manufacturers

★



★ In Cleveland, The Chandler & Price Company and Harris-Seybold-Potter Company — both leaders in their line — have standardized on Cline-Westinghouse motor and control equipment for many years.

Only Cline's experience, knowledge of printing machinery, and service facilities have been able to satisfy the distinctive needs of each company's line of presses. This is because Cline equipment is engineered especially for the presses on which it is to be used, insuring both efficiency and reliability.

Cline can also furnish equipment to operate any make of machine used by the Printing and Allied trades, from the smallest stitcher to the largest newspaper press. Standardization of motor and control equipment with Cline simplifies care and maintenance and assures the safest, most economical, and dependable operation of your machinery.

Be sure to specify Cline-Westinghouse motor and control equipment in all your machine contracts.

CLINE ELECTRIC MFG. CO.

MAIN OFFICE: 211 W. WACKER DRIVE, CHICAGO, ILL.

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CROCKER FIRST NAT'L BK. BLDG.
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CLINE SYSTEM
QUALITY ★ BRAND ★ SERVICE ★ TRADE
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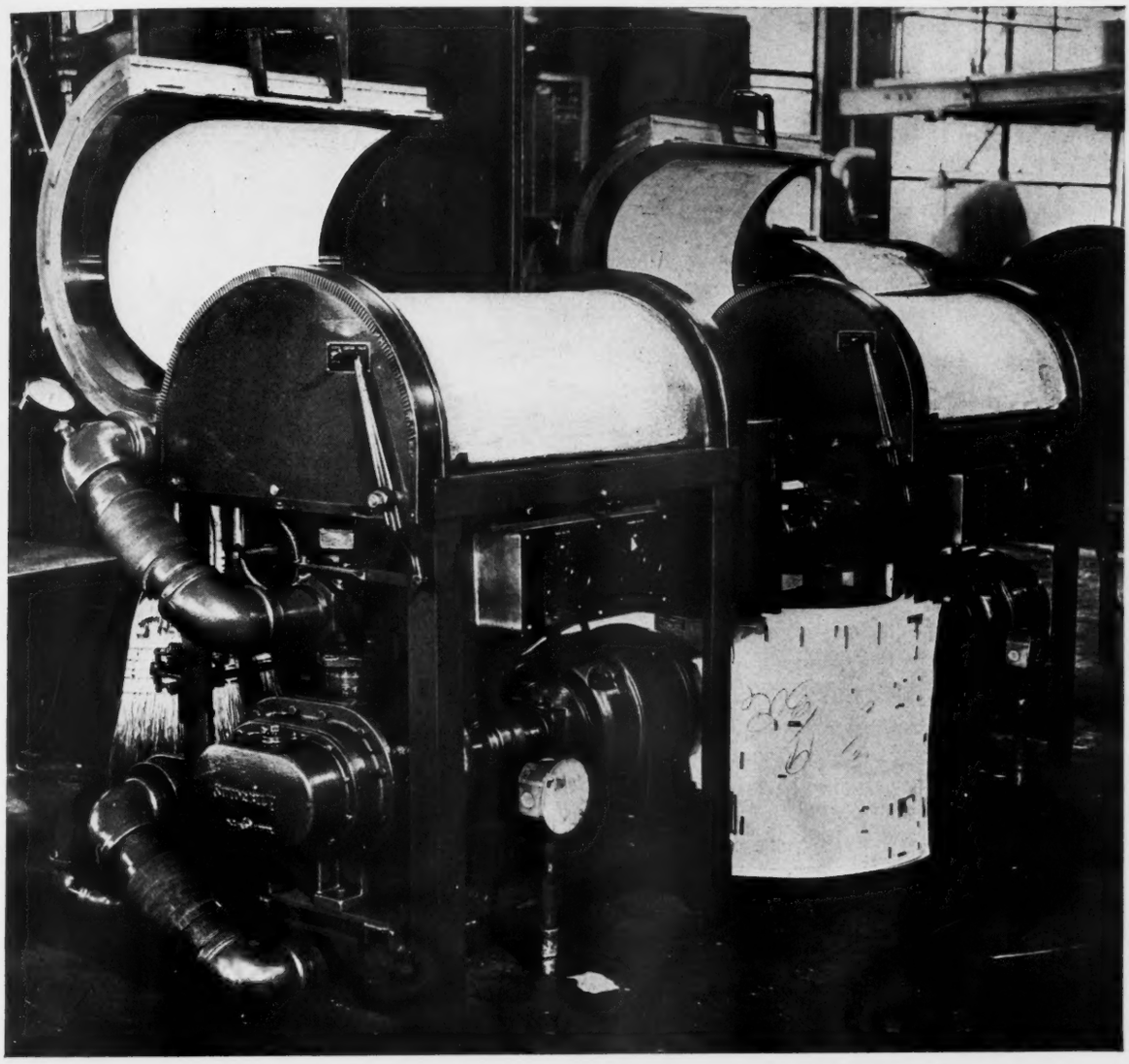
New York World-Telegram



The New York World-Telegram operates **Two Stahi Autoformers,** installation illustrated above. Newspapers owning **Stahi Autoformers** enjoy: First, **Satisfactory Casting Levels** reflecting **Relatively More Attractive Printing.** Second, the highest possible efficiency with mechanized dry-mat routine, reflecting in these days of high productive costs — **Maximum Economy.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

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417 OREGONIAN BLDG.
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GOSS PRINTING PRESS COMPANY, CHICAGO. NEW YORK. SAN FRANCISCO
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Budgetary Control

By L. E. BAUERFEIND*

Writer presents information for formulating composing room expense budget, and tells how operations are carried on under its use.

ANY satisfactory system of expense control must show the way to increased economies. It must demonstrate that various costs here and there are too high and thereby sources of waste and it must show when and where a department is falling down by failing to produce to capacity. All of these things and more are within the range of every good system of cost control and if operated with intelligence, the extensive savings it is capable of accomplishing will repay the costs entailed many times over.

Without doubt the most important device that can be used in planning for the future is the expense budget. While it is true that a budget is a schedule of expected expenses it is equally true that it is a target for controlling accomplishment.

You may tell your superintendent that he must reduce his expenses and for a time he will doubtless endeavor to hold his expenses down. But, if he is told: "You must not spend more than $85 for supplies," he knows he is bound by definite limits and that if he exceeds that amount he is labeled as inefficient in the eyes of his employers. But, on the other hand, he knows also that if he is well under the budget figure he shows himself to be a valuable member of the organization.

Function of the Budget

There is also a certain psychological power connected with a budget which can be achieved in no other manner. There is a tendency in human nature to forget the past, to bury their yesterdays, and to look ahead and wonder what tomorrow will bring forth. This is why a budget carries such power—it shows what is yet to take place—it sets a standard by which tomorrow will be measured.

But we must remember at all times that a budget is not a "day dream" composed of "beautiful air castles" forming a method by which employes are expected to work their heads off without ever accomplishing the end they are working for. Such a budget would rapidly destroy the morale of your organization. Better, much better, is it to set the budget where it may be comparatively easily attained and then to encourage and reward holding expenses below the budget.

Budget Must Be Built on Firm Foundation

A budget is a scientific statement, and not merely a statement of what the publisher would like to see take place but which he expects never will take place. A budget, to be a good and workable instrument, is prepared after a careful study of conditions has been made. The past should be thoroughly investigated, the present studied and the trend toward the future forecast. These three elements enter vitally upon the efficiency of the budget.

I do not believe expense budgets based upon percentage of income prorated to departments are of any practical value in controlling expense. I have before me one such budget which recommends allocation of 32.24% of gross income to the mechanical department on a newspaper of 10,000 circulation. In the first place it is absolutely impossible to make composing room expenses, as a whole, vary in ratio with income. The only value of this percentage figure lies in its comparison with the percentage your mechanical budget bears to your income showing how this ratio compares with the other fellows'. A budget to be effective must allocate a certain amount, monthly and annually, to each individual expense account.

First Step in Preparing System

The first step in preparing to install a budgetary system of expense control is an intensive study of what has happened in the past. This study should cover a period of practically five years.

As a hypothetical case let us assume that we wish to install this system in a newspaper which heretofore has used no definite method of expense control. It is now the middle of 1937 so we decide to start our investigation from January 1, 1933. The first step is to find what has been produced. If the advertising department has records showing the lineage sold we can pick up this figure from that department, otherwise it may be necessary to investigate the bound files. Using columnar analysis paper we head a sheet "Production, 1933." In the description column, using one line for each month we write: January, February, March, etc.

The first column is headed "No. Pages" and opposite each month we enter the number of pages produced that month. The next column head is "Column Inches" and contains the sum of the number of inches per page times the number of pages produced. The next column is headed "Advertising" and contains the number of inches of advertising sold each month. The last column head is "News." "Column Inches" less "Advertising" is the figure entered under "News." And so on for each month to date. The total of each 12-month group is, of course, the year's production. When we complete this work we have a record of what was produced for the years 1933, 1934, 1935, 1936 and to date of 1937. By comparing our figures we find the seasonal fluctuations and forecast the amount of business we should reasonably be able to expect in 1938, economic conditions being taken into consideration. Also by applying the method of cost control outlined in "Executive Control of Labor" (February and March, *Printing* Equipment *Engineer*) we are able to arrive at what should be the labor allowance per page in our 1938 budget.

Investigating "Non-Variable Overhead"

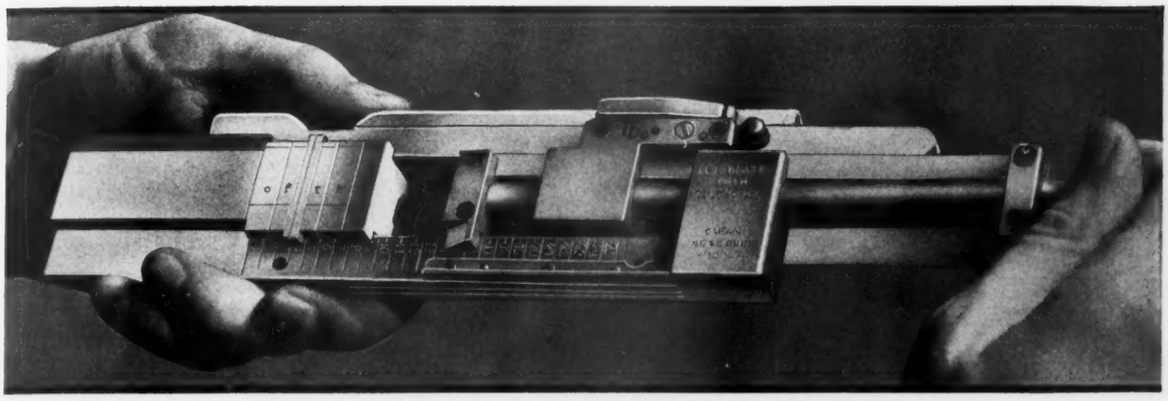
Our next investigation is based upon the account books and/or files of invoices, etc., covering the same period. If your books break down the department expense accounts into the classifications outlined in "Controlling Overhead Expense" (April, May issues, *Printing* Equipment *Engineer*) this will be comparatively simple, otherwise it will be necessary to use the filed invoices.

Again we will use columnar analysis paper. The heading of the first sheet will be "Non-Variable Overhead" or "Fixed Charges," 1933. Under the description column we again list the months for the five-year period, just as we did in the Production record. The money columns are headed, one for each account in this group

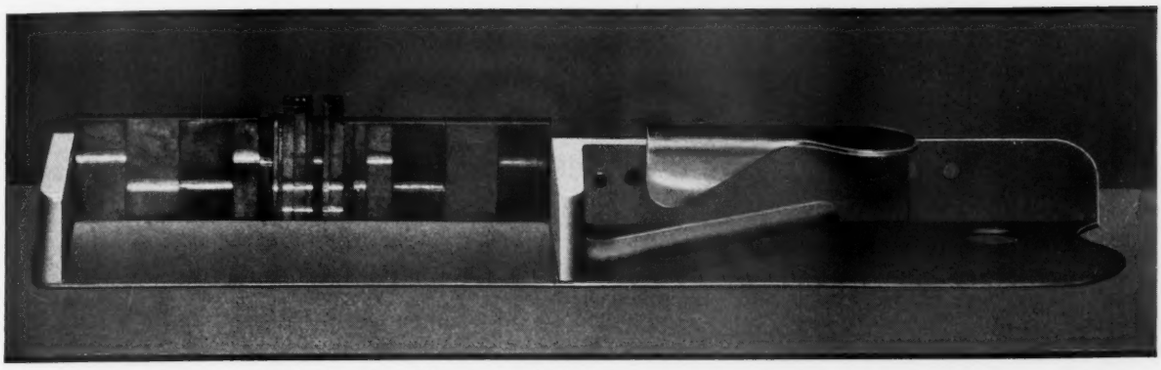
(*Continued on Page 70*)

**American-Statesman*, Austin, Texas.

For setting centered lines—
which way is easier?



The Ludlow Self-Centering Matrix Stick, with the slide being pushed up against the matrices.



A compositor's stick, with a typical centered line set in single types.

WITH single types, with the stick set to measure, the compositor picks up the individual letters and puts them in the compositor's stick one at a time, then makes successive additions of spaces or quads, first on one side and then on the other, until the line is completely filled out; he then inserts hair spaces to justify the line "tight to lift."

WITH the Ludlow Self-Centering Matrix Stick, set to any desired measure, the compositor gathers the typeface matrices and drops them into the stick, adding only the spaces between words, and then merely pushes up and locks the slide against the matrices. The typeface matrices automatically center accurately on the measure.

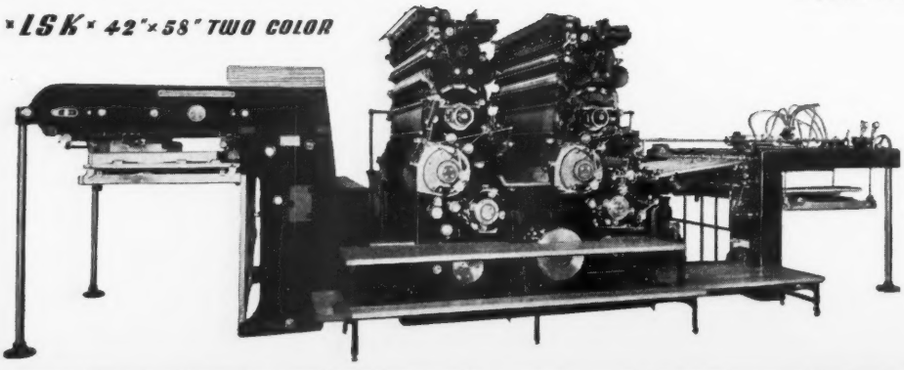
The Ludlow Self-Centering Matrix Stick, providing ease of centering and of quadding out flush-left and flush-right lines, is only one of the many profit-earning features of the Ludlow system of hand-set, slug-cast composition. Write us today for complete information.

Ludlow Typograph Co. 2032 Clybourn Ave. Chicago + + Illinois

Set in members of the Ludlow Karnak family

WHY HARRIS USES BALL BEARING MOUNTED ROLLERS

• For mechanical reasons it is impractical to drive the inking rolls by any other means than friction contact. To eliminate friction drag incident to roller sockets which cause heating and wear of both sockets and roller journal, Harris now mounts the inking rollers in anti-friction ball bearings. This construction eliminates the heating and wearing out of sockets and form rollers. It is very easy and inexpensive to replace these ball bearings after they have been in operation over a long period of time. Consequently, Harris press construction eliminates the necessity for the replacement due to wear of expensive sockets and rollers.



SOME FEATURES OF HARRIS COLOR GROUP

Revolutionary Harris H. T. B. Stream Feeder • Precision Tapered Pre-loaded Roller Bearings • Choice of Feed Roll or Rotary 3 Point Registering Mechanism • Micrometer Dials for Setting Printing Pressures • Quick Change Plate Clamps • Double Size Transfer Cylinder • Inker Load Eliminated from Printing Couplet • Harris Cleanable Ink Fountain • Adjustable Ink Vibration • Multi-Unit Construction • Spiral Gear Drive • Spring Grippers Throughout • Efficient Pile Raising and Pile Lowering Mechanism • Vacuum Control of Sheet in Delivery • Dial Press Speed Indicator • Feeder and Delivery Accommodate Any Style or Size Platform • One Piece Base with Extra Heavy Framing and Construction • Micrometer Adjustment of Ink Supply • Ball Bearing Mounting of All Ink Rollers • Improved Delivery Gripper Bar and Mounting.

HARRIS · SEYBOLD · POTTER · COMPANY

GENERAL OFFICES: 4510 E. 71st St., Cleveland, Ohio • HARRIS SALES OFFICES: New York, 330 West 42nd St. • Chicago, 343 South Dearborn St. • Dayton, 813 Washington St. • San Francisco, 420 Market St. • FACTORIES: Cleveland, Dayton

AUGUST
HEAT WAVES AND SUNNY BEACHES SUGGEST YELLOWS FOR AUGUST'S COLOR MOOD. . . . THE IPI COLORGRAM ON THE NEXT PAGE MAY HAVE A COOL SUGGESTION FOR YOUR COLOR PRINTING.
ipi
LEONARD

GUARANTEED Everyday LINE

Your most exacting job ink requirements are met with IPI's new EVERYDAY line. EVERYDAY job inks, available either in handy tubes or attractively designed cans, are first-quality inks. They are manufactured according to the most rigid specifications.

EVERYDAY job inks are thoroughly aged, then *reground*. This provides an accurate check on drying rate and body consistency. It assures you of ink that is clean and smooth-running.

HOW EVERYDAY INKS SAVE YOU MONEY

These exclusive features cost you no more! Efficient production enables us to bring you these best-quality inks at prices no higher than those you pay for ordinary job inks. By controlling the source of base materials and by confining production to a central point, IPI is able to maintain complete uniformity in its EVERYDAY line. You'll have fewer delays due to ink troubles when you use this reliable job line. EVERYDAY i help you get cleaner, finer-looking printing—printing that will ple your customers and result in more orders.

THESE INKS ARE GUARANTEED

We are so sure that you'll find EVERYDAY job inks economical a entirely satisfactory that we are guaranteeing you'll like them. If are dissatisfied with EVERYDAY inks, return the tube and we'll ref the purchase price.

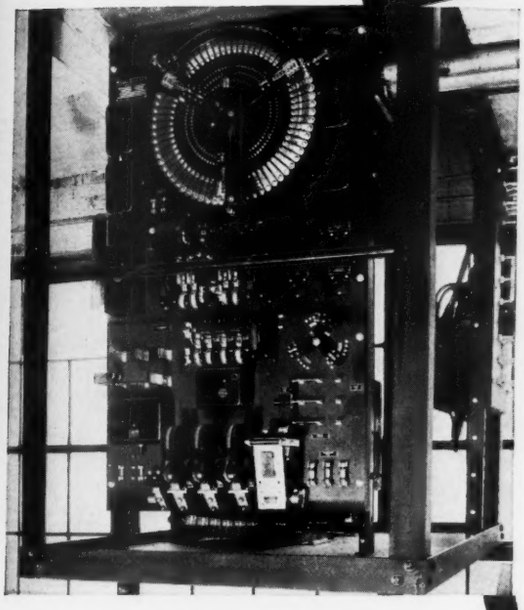
FREE COLOR FAN. Try EVERYDAY job inks TODAY. Get the adv tages that these clean-printing, easy-to-use inks will bring you. W for the free EVERYDAY color fan, or call your nearest IPI branch i is more convenient. IPI, 75 Varick Street, New York City.

THE IPI "COLORGRAM" FOR AUGUST—The design on the other side is one of a series by Robert Leonard, planned to express the color mo of the month and to show the behavior of colors and inks under certain conditions. The color scheme for August is a series of yellows, rang from green-yellows through orange-yellows. The low value red in "August," the bronzed bather, and the IPI circle are in harmonious contr A small note of complementary contrast is represented by the blue touches in the bathing suit and cap. The colors for the inks were selec from the IPI Color Guide. The yellows are Color Guide 30-80-12, 25-80-12 and 20-76-12. The blue is 75-40-10. The red is a slightly lig value of Color Guide 5-35-14. For further information address IPI, 75 Varick Street, New York City.

ONE UNIT, BLACK—TODAY

4 UNITS, 5 COLORS—TONIGHT

Perfect Speed Regulation for All Combinations from One G-E Automatic Controller



In Shaw-Chicago's plant, this G-E a-c full-automatic controller provides precise speed regulation for any combination in from one to five colors

Shaw-Chicago Printing Company
PRINTERS AND PUBLISHERS

April 6, 1937.

Mr. F. S. Peasley,
General Electric Co.,
230 So. Clark St.,
Chicago, Illinois.

Dear Mr. Peasley:

The special motor and control equipment which the General Electric Company furnished for our New Duplex Unitubular press is operating perfectly.

For our work, which consists of both color and black printing, we use various combinations of the units of this press. The close regulation of speed, which the G-E equipment makes possible, is very essential for satisfactory operation under these varying conditions.

Your equipment has fulfilled all of our requirements and we are well satisfied with it.

Very truly yours,

SHAW-CHICAGO PRINTING CO.

W. W. Buchman

W. W. Buchman, Vice President.

bt

FROM the new Duplex Unitubular press at Shaw-Chicago's plant is run a wide variety of jobs, from one color to five colors. For this press *one* G-E full-automatic controller provides the exact speed regulation for any combination. This involves a wider range of load conditions than heretofore deemed practical for a single drive.

To meet this requirement, General Electric applied a special wide-range load-adjusting device whereby performance is equally as good at fractional as at full load. Never before has an application of a-c press drive and control given such performance in fulfilling requirements for extreme flexibility in press operation.

When you are considering press equipment, it will pay you to buy G-E press drive and control for any size or type of press or auxiliary equipment. General Electric Company, Schenectady, N. Y.

The BEST PRINTING DEMANDS the BEST RUBBER

WINNERS

First, second and third 1937 Ayer Awards—all users of Goodyear press equipment

YOU don't have to take our word for it that you'll get the best printing from Goodyear rubber. It is amply proved by the fact that six out of seven times the Ayer Trophy for typographical excellence has gone to papers using Goodyear press equipment.

As the world's largest rubber company Goodyear has the most thorough experience in compounding rubber to meet any printing requirement!

The elastic structure of Goodyear Rubber Blankets insures a clinging fit that maintains cylinder diameters with automatic accuracy—*and without breaks and bolsters.*

Goodyear Rubber Ink Rollers are unaffected by atmospheric changes that distort other rollers. They take a fine set on type; spread the ink evenly and economically; take a good regrind and do not require washing.

Equip one press with Goodyear Blankets and Rollers and note the improvement — true dense black reproduction; "juicier" half-tones; cleaner, more uniform impression — *blue-ribbon printing at lowest cost!* For full information write Goodyear, Akron, Ohio, or Los Angeles, California.

Branches in all principal cities

THE GREATEST NAME IN RUBBER

GOODYEAR

MORE NEWSPAPERS ARE PRINTED ON GOODYEAR RUBBER UNDERPACKING THAN ON ANY OTHER KIND

Printing Equipment Engineer

Trade-Mark Registered U. S. Pat. Office

August, 1937

Volume 54 No. 5

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A Monthly Publication

ESTABLISHED 1910

Member of Controlled Circulation Audit

CCA

Published Monthly

AT 1276 W. THIRD ST., CLEVELAND, O.

Eastern Manager:

RUSS BIRCHFIELD, 509 FIFTH AVE., NEW YORK, N. Y. VANDERBILT 3-5191

Western Manager:

E. P. BLOOMSTER, 232 E. ERIE STREET, CHICAGO. PHONE SUPERIOR 2444.

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Published by Don Will • Edited by Mac Sinclair

Associate Editors: Ira D. Pilliard, Adam Henry Reiser

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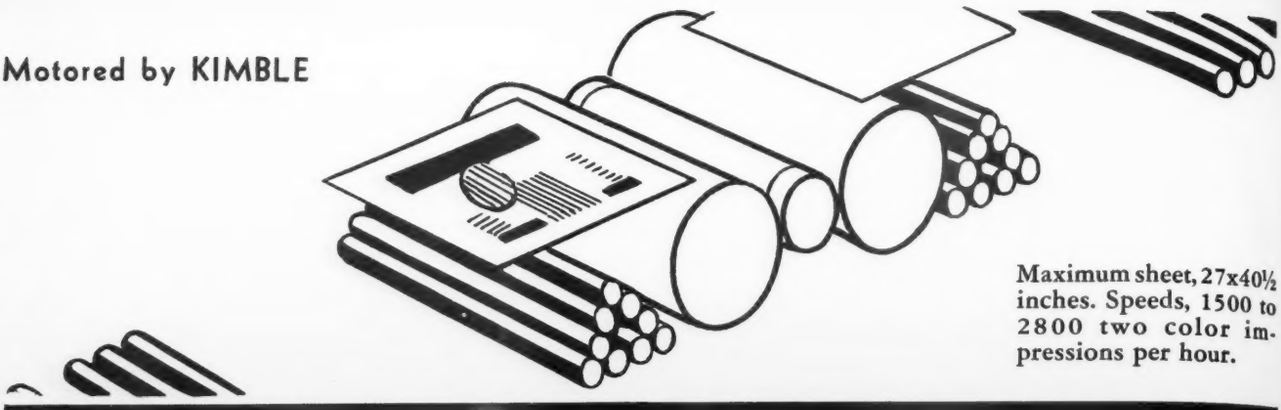
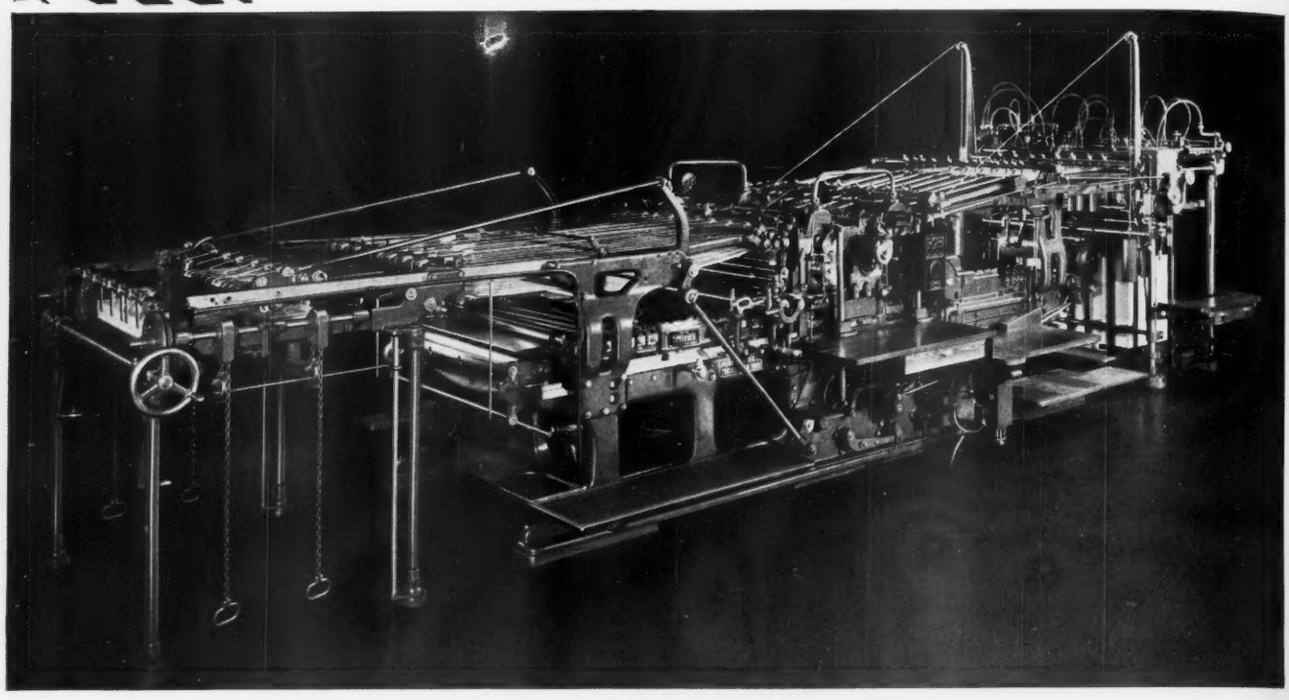
Motored by KIMBLE



Maximum sheet, 27x40½ inches. Speeds, 1500 to 2800 two color impressions per hour.



MIEHLE TWO COLOR AUTOMATIC UNIT

opens a new avenue for profits . . . bringing to the wise printer the consistent performance that builds business. As in all Miehles . . . the adjustments are few and simple . . . changes are quickly and easily made. The entire operating mechanism has the Miehle dependability and accuracy of manufacture . . . so essential to low cost production of quality printing.

MIEHLE PRINTING PRESS & MFG. CO.

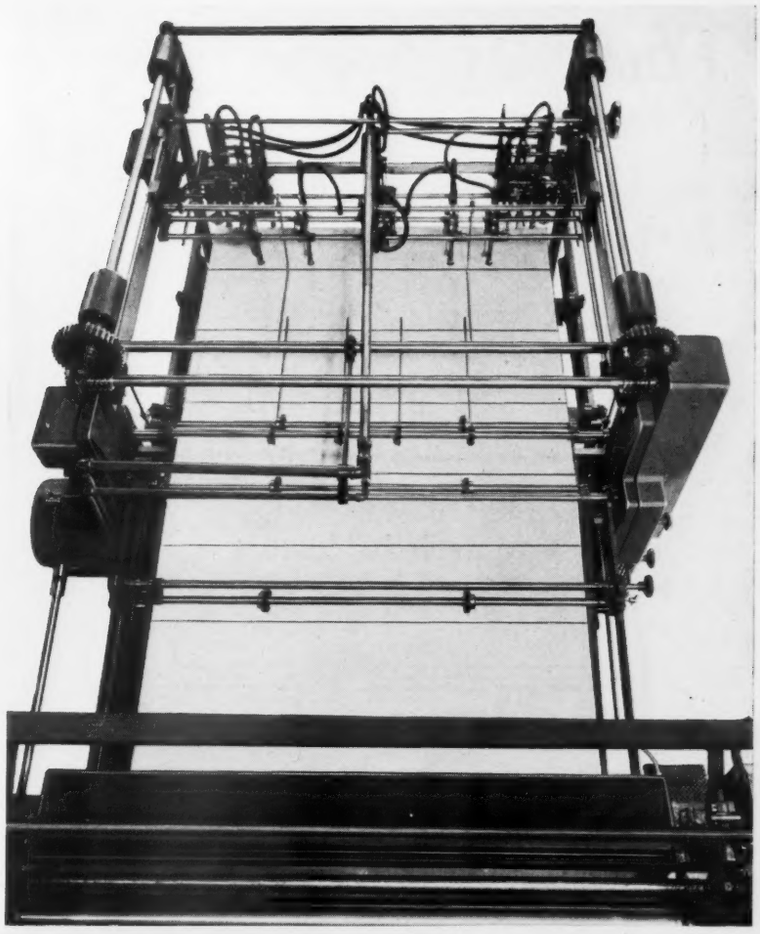
CHICAGO NEW YORK

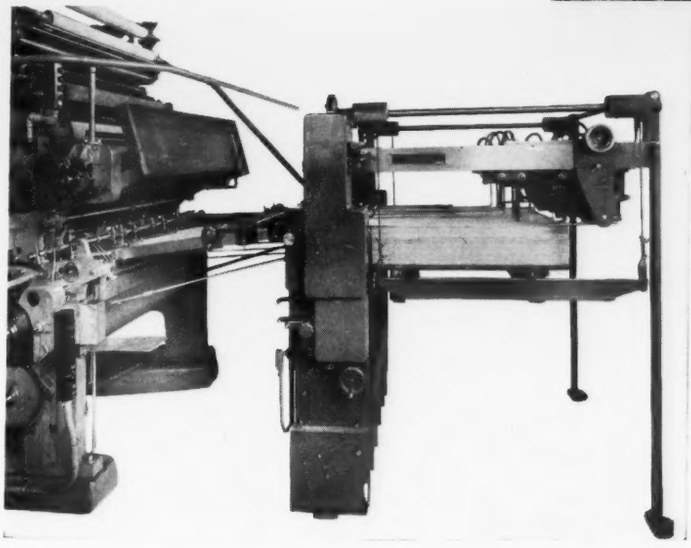
Sales Offices in Principal Cities

PRINT IT ON A MIEHLE

STREAM FEEDING

is the TOPIC of the YEAR in the printing industries





The press feeder of *today* is the STREAM FEEDER. Since this "slow-motion" high-speed equipment was introduced in late 1936, Christensen has not built a single conventional type machine. . . . Test installations are well advanced in different parts of the country, in plants equipped with practically every make of modern press—Hoe Offset, Claybourn Rotary, Cottrell Rotary, Miehle Flatbed, Premier-Whitlock Flatbed, and Chambers Varnishing Machines. Results to date exceed all expectations. . . . If you want a feeder that can *keep pace* with highest press speeds, that will improve register, reduce "down time" and is simple to adjust, investigate what the Christensen Stream Feeder will do on your present equipment.

THE CHRISTENSEN MACHINE CO.
100 Fourth St., Racine, Wisconsin

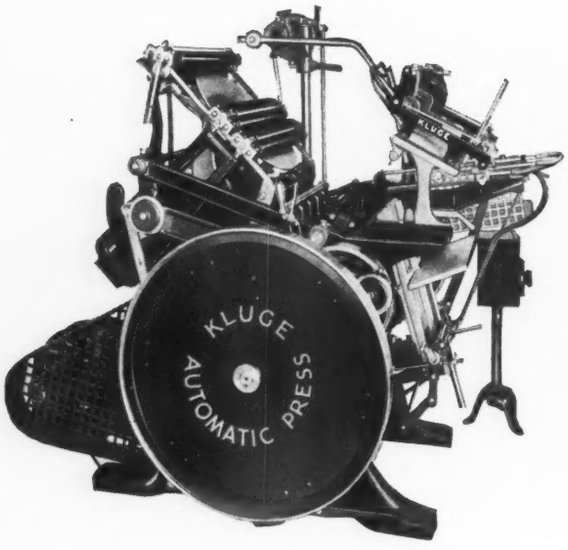
ASK YOURSELF THESE QUESTIONS

1. Do your feeders limit the speed at which your presses operate?
2. Are you interested in improved register?
3. Would a feeder with pile height at eye level (which eliminates platforms regardless of feed-board height), where adjustments can be made from the floor, improve production?
4. Can you appreciate the fact that a feeder presenting sheets to the front guides of the press at a sheet speed of but 8 to 13 inches per cycle would improve register?
5. Would a feeder conveyor that eliminates slow-downs, and other sheet-controlling devices, reduce "down time" on your press-and-feeder unit?

CHRISTENSEN STREAM FEEDER

There is Something about a KLUGE that appeals to all Printing Craftsmen

Call it Efficiency . . . Versatility . . . Reliability . . . Responsiveness. It has all of these qualities, and any one of them might be the reason for any one printer preferring the Kluge. Put them all together and add the low original cost, the lower cost of production and the lowest upkeep cost, and you have a total of very good reasons for the popularity of the Kluge.



Kluge Efficiency is inbuilt and represents the latest and best of modern press features assembled with high-grade materials and precision craftsmanship.

Kluge Versatility covers the run of the hook, size permitting. Tissue paper, heavy board, business cards, oversize sheets, envelopes of all shapes and sizes, die-cutting, embossing, and other special jobs are all "pie" to the Kluge.

Kluge Reliability, on any kind of letter-press job, is vouched for by its dependable system of fine adjustments, enabling it to do justice to the best of work, from solids to halftones.

Kluge Responsiveness is the quality which appeals to the craftsman who sets up a good job and expects good results. The Kluge never disappoints him.

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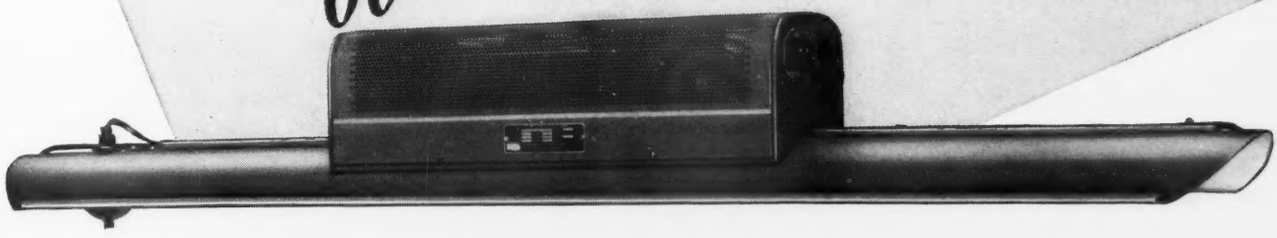

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22% more light per watt . . . instant starting . . . high power factor . . . plus the long, detail-revealing light source which more than a million workers and their employers now enjoy. They are all yours in the new Horizontal Cooper Hewitt Lamps.

These "24-hour skylights" of low intrinsic brilliancy need no diffusing medium. The soft long-source light gets down into deep recesses, illuminates vertical surfaces and rests the eyes. All jobs are made easier —wherever sight is used.

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GENERAL ELECTRIC VAPOR LAMP COMPANY

826

7 years after

the savings are greater than ever

Here is additional evidence on the subject "Do the savings 'ast?" . . . referring to the savings effected by Matrix Contrast Service . . . as discussed in these pages recently.

7 years after installation of Matrix Contrast Service

Here are the figures for a 16-machine newspaper plant:

	Errors per 100 lines
Before installation of service	4.23
Immediately after installation (29% fewer errors)	3.01
Seven years after installation (37% fewer errors)	2.65

Black and White Matrix Contrast Service is guaranteed to reduce total errors in line composing machine composition at least 25%. The usual average is nearer 35%. And the savings last indefinitely!

MATRIX CONTRAST CORPORATION, EMPIRE STATE BUILDING, NEW YORK

Sole Licensees of the Percy L. Hill Matrix Contrast Patents Nos. 1,466,437 and 1,796,023

What Standardization?

By MALCOLM BRUCE

This question is asked by one who was an original champion of newspaper page and roll size standardization.

NOT so very long ago I read an article in a trade magazine, written by one who for years has been a strong advocate of standardization in newspaper production. In that article he outlined some possible money savings in newsprint—if publishers would just adopt certain changes, mainly margins, increased dry mat shrinkage, narrower column rules, etc., all making it possible to use about an inch less in the usual four-page wide paper rolls. It was pointed out that there was still a horrible waste going on because we are using about forty different sizes of paper rolls, which could be eliminated. All quite true. The writer of that article, along with many others including myself, has labored for over a quarter of a century for real efficiencies and standardization in newspaper production. For many years we advocated 2 in. or 12-em pica columns, 6-point column rules, 8 columns to the page, with 3/8 in. or 1/2 in. side margins and 3/8 in. to 7/16 in. dry mat shrinkage, all of which would permit standardization of paper roll sizes of 68 in., 51 in., 34 in. and 17 in. Hundreds of daily newspapers throughout the United States and Canada have adopted that standard and many more are joining or are about to do so. The outlook for some real standardization in newsprint paper roll sizes was indeed good. Cooperation with the newsprint makers and possible savings thereby would seem to be a reality with the adoption of the above paper sizes, margins and reasonable mat shrinkage, by a great number of newspapers.

Most of the stereotyping and rotary presses in our newspaper plants have been easily, or could be, adapted to meet the foregoing requirements for page and paper sizes of standardization. Even the advertising space buyers have given us their cooperation and few, if any, have complained about the slight loss of space by mat shrinkage. So far, so good.

But now, just as we begin to see a victory for standardization, along comes one of the leaders of that long fight, suggesting a flock of changes and some other possible savings thereby, all of which would mean changes in the present several sizes of newsprint rolls, narrower column rules and excessive dry mat shrinkage to 5/8 in. to each page mat. So it is thus suggested that we start all over again and fight for years to adopt another new standard. Thus I ask "What Standardization?" After all, who are we to say that this is the correct standard? Just when we think we are right we are advised we are wrong. "If you say Pajawmas, I say Pajamas, let's call the whole thing off," is just about as clear as mud. Personally, it is my opinion that our present page size standard as given above is about as good as can be had at present, and that the narrower paper suggested with its bastard size 4-point column rules and trouble-making excessive mat shrinkage is not worthy of serious consideration—at least until we have made successful improvements on the press folders to permit control and folding of the sheets without offsetting by the trolleys at the tops of formers and the folder nip rollers. Also, if we must secure 5/8 in. shrinkage in dry mats, we must face plenty of trouble in doing it. Mats must carry an excess amount of dampness to obtain a 5/8 in. shrinkage and are more easily broken on the faces, or will cut through more easily. Also, they are more easily distorted when molded, especially if the mats carry large cuts or halftones, which sometimes results in fade-outs or so-called buckles. Excessive dampness requires longer time in scorching and the variation in shrinkage is correspondingly greater, resulting in varying page plate widths. In short, this excessive shrinkage matter is an invitation for trouble to every man in the stereotype department and the pressroom. It results in such narrow outside margins and offsetting as to spoil the appearance of the printed pages and gives the pressmen no end of trouble in trying to control the sheets in the folders. To my mind, all of the boasted savings are wasted by make-overs of pages that didn't shrink sufficiently and in added printed papers wasted in the folders before the pressmen can get full control of the printed sheets and adjusted margins.

Further, this demand for excessive shrinkage makes some added troubles for the stereotypers. Because of excessive dampness in the mats, in my opinion, stereotypers cannot use sufficient molding pressures to secure full depths of bowls of type and halftone screens, *i.e.*, if they use enough pressure to secure depths they will cut or break through the mats, and if they lessen the pressure they lose some of the desired depth and sharpnesss. Even admitting we can secure sufficient shrinkage, is it fair to the advertisers? They are entitled to a full measure two inch column. Some day they may demand it—if we carry this shrinkage matter too far. And so, I would suggest that we stick to the one good standard we now have until such time when a proven better one is offered along with the proper improvements in machinery to handle it.

Editorial

Some Observations and a Suggestion

IT DOESN'T seem that the attendance at the A.N.P.A. Mechanical Conference has yet reached its peak. Witness the Chicago Conference, June 7, 8 and 9. The registrations numbered 685 newspaper mechanical chiefs. To this number should be added several hundred manufacturers, suppliers and their representatives which brought the total to well over a thousand. The new all-time high in registrations no doubt is due both to improved business conditions in the industry and to the vital need of the Mechanical Department among its member papers.

An executive prominently identified with the Mechanical Department in remarking about the phenomenal attendance, both of newspaper executives and manufacturers' representatives, thinks the Conferences have reached an attendance which makes the meetings unwieldly and that the technical value of the meetings is lost to the individual. The editor of *Printing* Equipment *Engineer* does not agree with him. While some of the intimacies and fellowship which prevailed at former (and smaller) group meetings are gone, yet the writer does not feel that these are prime requisites in the successful functioning of the Mechanical Department.

The major endeavor of the Mechanical Department, of course, is to provide research data and technical information so that the mechanical executives of member papers may be guided in improving the physical appearance of their papers and to furnish production data for efficient plant operation. Now, in furnishing that information, either at the meetings or through the Mechanical Department Bulletins, the Department has accomplished its major objective. The mechanical executive who attends the meetings will obtain that technical information if he wants it regardless of the number of his fellows who may be rubbing elbows with him in a meeting.

However, there is something to be said about the unwillingness of individuals in the audience to respond from the floor immediately following each speaker's address. At the recent Chicago Conference the criticism was made that this response was disappointing. Whether this was due to sufficient analysis of each subject by each speaker or because of timidity on the part of many executives who hesitated to arise at the chairman's invitation, we are not prepared to judge.

The fullest personal benefit from any technical subject cannot be obtained except through questioning the speaker immediately following the closing of his address, since personal interrogation will bring out points which may not have been made clear in the speaker's discussion.

To prove the assumption that timidity may have something to do with lack of questions from the floor of a formal session, one of the speakers at the Chicago Conference stated he was approached by nineteen executives in the evening immediately after and during the day following the day he spoke with questions pertaining to his talk. Any of the questions submitted by these executives would have been answered from the rostrum. Besides, the questions and answers would have been recorded and made a part of Manager Wines' Mechanical Bulletin report of the proceedings. As such, the inclusion of the questions and answers would make the Bulletins more valuable for reference purposes.

In view of the hesitation of some mechanical executives to participate in the programs from the floor, there is much to be said in favor of the departmental or clinic meetings which were instituted two years ago at the Detroit Conference. It is evident, for instance, that many a pressroom executive feels more at home among his fellows than he does in a mixed congregation in the larger and more formal meetings.

Next year *Printing* Equipment *Engineer* trusts Permanent Chairman Kauffmann, Manager Wines and the Mechanical Committee will give some thought to restoring the departmental meetings in addition to the general or formal sessions. We realize it is difficult to satisfy everybody including executives from the smaller communities, but it is apparent that mass meetings alone do not provide the greatest flexibility in imparting technical knowledge.

Printing Equipment *Engineer* congratulates the Mechanical Department upon its usefulness and its growth. The cooperation of the manufacturers and suppliers is stimulating, too.

Meanwhile *Printing* Equipment *Engineer* espouses bigger and better annual conferences. There's a joy in doing things in a big way.

Employment and Service Department

for Readers of

Printing EQUIPMENT *Engineer*

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* Equipment *Engineer*, 1276 West Third St., Cleveland, O.

PATENTS FOR SALE—Printers Insurance Protective Inventory System patents for sale. System provides means for determining true inventory value of printing plant for running business value, tax assessment value, value of plant to be sold under hammer and fire insurance value for printer, engraver, bookbinder, newspaper. Reply Box 20.

WANTED—PRODUCTS TO MARKET—A large organization is looking for additional products to market in the printing field either on royalty basis or will purchase outright. Reply Box 29.

MECHANICAL SUPERINTENDENT—Wants connection with progressive, growing daily newspaper. Thoroughly competent and experienced in every department. Best of references. Reply Box 30.

Consult the P-Double-E Index

Wale Rotary Press

By A. G. FEGERT

Prints by letterpress from thin copper plate wrapped about cylinder without makeready—Surplus ink automatically forced back to ink fountain.

THREE inquiring visitors were seated in the private office of Russ B. Leech, president of Standard Process Corporation, while Mr. Leech explained why no official announcement had been made to the printing trade concerning the Wale Rotary Printing Press, about which the visitors had come to inquire. I was present to obtain information for *Printing* EQUIPMENT *Engineer*. George W. Leech, the son, announced to his father that the two other visitors—from two printing trade associations—had come also to inquire about the press.

WHAT HAVE YOU LEARNED?

On that recent trip to another city where you visited one or more printing plants, undoubtedly you received some ideas which will help production in your plant. *Printing* EQUIPMENT *Engineer* welcomes articles or letters from readers telling about these ideas. Perhaps one idea started you in a new train of thought which helped overcome one of your production problems. Let our readers know about it!

Thus the three of us combined our question-asking abilities, received our answers, and subsequently saw the much-talked-about Wale Rotary Press.

"We are not quite prepared for the publicity that is being forced upon us about this press," explained the elder Mr. Leech. "We have built six of the presses and are erecting an addition to our building to manufacture 100 more of the present improved model. We do not want to do any promotion work in connection with the press until we are ready to manufacture it on a mass production basis and render the required service."

Mr. Leech explained that his concern normally specialized in the design and manufacture of rotogravure equipment, but that when he heard about Bruce Wale in San Francisco with his new type of rotary press, a deal was made by which Mr. Wale joined the Standard Process Corporation staff in Chicago. Thus the inventive abilities of Mr. Wale and the engineering skill and manufacturing facilities of Mr. Leech's organization were combined with the result that after three years of additional experimentation the press exhibited to the three visitors was developed.

During the demonstration of the press, the younger Mr. Leech explained its mechanism and operation. The visitors agreed among themselves that no one, by looking at the machine, would suspect at first sight, that it was a printing press. The center upright section looked very substantial, and proved to be the printing press itself with a heavy frame, 56½ in. high. At the top was the ink fountain, beneath which were in order, an ink roller, the 4-in. steel vibrating drum, two other ink rollers, the 3½ in. drum, the two form rollers, the steel cylinder around which the flexible copper printing plate was wound, and beneath that, the impression cylinder. The printing plate itself has a maximum printing surface of 8⅛ in. by 14 in. The feed board is horizontal, 20 in. wide and 44 in. long, which permits the press operator to hand-feed the paper. The rate of speed ranges all the way from 6,000 to 15,000 impressions an hour. A variable speed pulley with control provides for setting the motor at any desired speed.

To a person not actually seeing the press in operation, it is inconceivable how a hand-feed operation with such speed is possible. The explanation is that the cylinder, around which the flexible printing plate is wound, is less than 3 in. diam. and when it revolves at the speed of 15,000 an hour, the paper fed into the press requires about one move a second of the operator's hand for the paper to contact the impression plate. The paper, in the case of letterheads, is cut 11 in. by 34 in., so that four successive impressions are made upon the sheet while the sheet is being forced into and through the space between the rotary printing plate and the impression cylinder, just as the old-style wringer attached to the wash-tub forces through the cloth placed between the rolls.

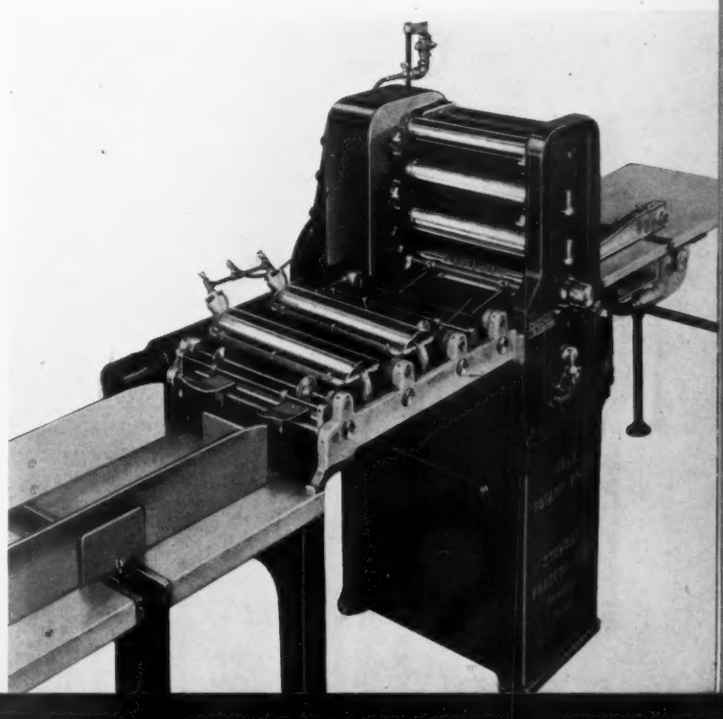
After the sheet has been printed, it is conveyed on swift-moving rollers to the delivery deck, through two covered gas heaters to prevent offsetting the ink. The delivery table—43 in. long—with its joggers, then receives the sheet which at no time from the beginning to the end of the operation was in any but a flat horizontal position.

No makeready is required on this Wale Rotary press. This statement almost requires added to it, Ripley's well known remark: "Believe it or not."

When the question of no makeready was raised by the visitors, it was explained that makeready is not required on the press because the frame itself is sufficiently rigid that it is possible to place into the frame the various precision milled steel cylinders and rollers so that they

(*Continued on Page 26*)

Wale Rotary Press, said to print at rate of 15,000 impressions per hour by letterpress method. Printing element is a photoengraved sheet of thin copper wound about a less-than-3-in. diam. cylinder.

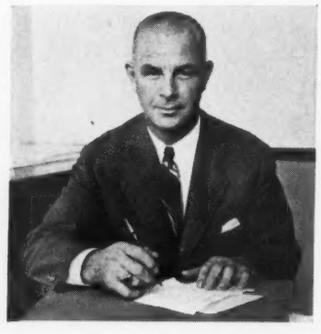


SOME OF THE CHAIRMEN AND SPEAKERS AT XVIII ANNUAL CONVENTION, INTERNATIONAL ASSOCIATION PRINTING HOUSE CRAFTSMEN

Upper Row (left to right): H. A. Porter, Vice President, Harris Seybold Potter Co., Chairman of the Offset Clinic. L. W. Claybourn, Claybourn Div., C. B. Cottrell & Sons Co., Milwaukee, speaks on "Mechanical Progress in Letterpress Printing." H. W. Hacker, President, Hacker Mfg. Co., Chicago, discusses "Makeready and the Composing Room."

Second Row (left to right): J. W. Kirkpatrick, Chandler & Price Company, Cleveland. His talk deals with "Modern Platen Press Development." G. L. Erikson, Braden-Sutphin Ink Company, Cleveland, speaks on "Color—What It is and How It Should Be Used."

Lower Row (left to right): Norman Welch, Welch & Quest, Toronto, presides at the Composing Room Clinic on Monday, August 9. Charles D. MacGregor, Manager Magazine Press Division, Curtis Publishing Company, in addition to chairmaning the Pressroom Clinic has prepared a paper on "A Method and Use of Quick-Drying Inks." John J. Deviny, Educational Division, Social Security Board, Washington, D. C. discusses "The Social Security Act as It Affects the Graphic Arts."



Craftsman's XVIII Annual Convention

By J. Homer Winkler *and* John E. Cobb

THE 18th Annual Convention of the International Association of Printing House Craftsmen was held in Hotel Cleveland on Sunday, Monday, Tuesday, and Wednesday, August 8 to 11. So far as is known, all attendance records (except the 1928 convention in New York) were broken, a total of 1,060 registrations having been announced before adjournment of the Convention on Wednesday.

All of the previous elective International officers were selected to serve for another year with the exception of Mark Mullee, International Treasurer, who tendered his resignation. S. V. Fitzgerald, a long-time member of the Milwaukee-Racine Club, was selected to succeed Mr. Mullee.

No outstanding legislation or change in administrative policy was adopted by the Convention.

Sunday Evening Opening Session

General Chairman Mac Sinclair formally opened the Sunday night meeting at 8 o'clock in the Ballroom. The opening ceremonies were of a serious nature and the program was divided in two sections. After the formal and impressive convention ceremonies, the Cleveland Male Chorus under the direction of William Hughes presented a program of fine vocal numbers. The chorus was assisted by Ray Carl's String Ensemble. Craftsman Gale Craig (Cleveland Club) announced the numbers.

Monday Morning Session

The principal address during the Monday morning session was delivered by John J. Deviny, Past International President and a nationally-known figure in the Graphic Arts. As Assistant Director of the Bureau of Old-Age Benefits, Social Security Board, Mr. Deviny gave an authentic summary of this all-important piece of Social Legislation. He reviewed the history of this type of legislation, described the occasion and need for enactment of the Social Security Act in this country and outlined the benefits that are to accrue because of its existence. In discussing the funds accumulated and standing to the credit of the various states on July 15, 1937, he enumerated the following five states: New York, over $60,163,000; Pennsylvania, about $38,000,000; California, over $31,793,000; Massachusetts, over $18,969,000; and Ohio, nearly $17,120,000.

A discussion of the need for the benefits of this act for those in the printing industry and the benefits that would result to the employees brought out many interesting features. In concluding, he pointed out that the act has installed a practical, business-like system of social accounting. Broadly speaking, the amount put into unemployment compensation, old-age benefits, and the welfare and service provisions of the act is an investment not only in the security of the people as individuals but in nation-wide buying power and business stabilization.

Composing Room Clinic

The Composing Room clinic opened with a group of about seventy-five Craftsmen. Chairman Norman Welch, Toronto, called the clinic to order, naming the four speakers selected to present the subjects for discussion.

The first speaker was Walter F. Schultz, Dallas, Texas, Supervisor of Department on Composition, Texas Farm and Ranch Publishing Co.

"Composing Room Leaks"

Some of the items that are not generally credited with increasing composing room costs were enumerated and discussed by Walter Schultz in his talk "Composing Room Leaks." Mr. Schultz is also Supervisor, Department of Commission of the International Educational Commission. He has been a regular contributor to trade journals and is well known for his clear thinking and practical treatment of subjects. He lists the three general causes of composing room leaks as: (1) Failure of the human element, (2) Improper composing room management and (3) Mechanical equipment. Every composing room in the country could make good use of the suggestions enumerated by Mr. Schultz to overcome these leaks. His ideas are sound and the paper was very well received. This paper forms an excellent contribution to composing room literature.

Discussion

Craftsman Watson, Toronto, questioned his American Craftsmen regarding the control of guards on machines. In Canada guards are protected by regular industrial inspection, with heavy penalty for not abiding by the rulings. He was assured that most of the U. S. plants are protected by state laws, varying somewhat in application of safety measures. Many have severe laws, and penalize violators heavily.

Craftsman Kaarch, Pittsburgh, offered to mail pamphlets on a safety program that was being directed in his state, to any member who would write him or leave his card following the meeting.

Craftsman Schultz cited several instances of men who had lost fingers in cutters and saws through carelessness and lack of guarding. Douglas C. McMurtrie finally asked the chairman if there were any of the men that had all their fingers.

"Type Fit to Print"

A veritable store of helpful procedures for machine composition departments is contained in the talk given by L. A. Neumann of the M&L Typesetting and Electrotyping Company of Chicago, on "Type Fit to Print." Mr. Neumann has been one of the most active and aggressive exponents of precision methods for machine composition.

He pointed out that typesetting machines have all the factors built into them to result in perfect quality if they are intelligently used. Frequent checks of point size, body height and thickness are necessary to attain this end. The equipment necessary for this was described. A series of suggested regular checking practices to maintain quality was given. These suggestions should be clearly displayed in every machine composition department, they are most practical and valuable.

Mr. Neumann also made some very fine points in the cause of trade composition, as against printers using their own composing room facilities. Some press sheets were displayed, illustrating the savings in makeready effected through the use of type fit to print.

Discussion

The question of the success of universal metal—used for slug-casting machines, the Monotype and stereotypes was raised by Craftsman Watson, Toronto. Craftsman Neumann stated that his firm had given this metal a thorough test on all types of machines; the results were that for Monotype it was OK, but was unsuccessful in slug-casting machines.

Craftsman Allan Robinson, Baltimore, inquired if there was any method of assuring a good printing face from slug casting machines to be printed on enamel paper. Method recommended by the speaker was the use of a regular Dixon Finishing Rubber—rubbing the surface of the type-face in the same manner as the electrotyper.

The best assurance for good slugs is a policy of careful machine maintenance and a schedule of methodical rules for cleaning and adjusting machines regularly. Mr. Neumann read a list of standard rules, which if maintained would assure the best results in the printability of the face.

The problem of casting slug composition on a standard fitting the body size of foundry type was advanced by Craftsman Schreiner, Des Moines. Due to the variation, good justification is difficult, when foundry type is used in the same line with the slug. Machine representatives present stated that it was possible to obtain liners which would correct this evil to quite an extent, although there is a possible variation due to expansion and contraction of metal.

Correction of typecasting machine troubles should be made at the source—not after the job is set.

"Makeready and the Composing Room"

H. W. Hacker, President, Hacker Manufacturing Company, Chicago, has been a consistent foe of excessive makeready. In his talk, "Makeready and the Composing Room", he made one of the most effective and lucid expositions of this subject that has ever been presented. Following a general discussion and definition of the problems involved,

President Clark Long and Mrs. Long pose informally for the candid camera man. Likes her first Craftsman's Convention.

BOSTON

Next Convention City

A great deal of color pervaded the different lobbies of Hotel Cleveland during the convention days. This was due to the promotional activities of Baltimore, Boston and Grand Rapids delegations who through various methods and means sought to capture the next convention city.

Grand Rapids Craftsmen conducted a drawing for a beautiful overstuffed lounging chair which was won by John S. Plummer, Chicago Manager of Intertype Corporation.

The Baltimore delegation brought a heroic size statue of Lord Baltimore done in brilliant colors and set it up in the hotel lobby, as a means of promoting the next convention city favor on the part of the delegates.

The Boston delegation circulated actively through the lobby crowds and wore bright red medallions inviting interest in the suitability of Boston as the most desirable convention city for 1938.

he proceeded to enumerate the four groups of operations that constitute makeready as *Get-Ready*, *Right Height*, *Right Position* and *True Makeready*. The operations of Get-Ready and True Makeready are necessary and are not of concern to the composing room. But the wide field of inaccurate dimension—wrong height and wrong position—which lies in between, consumes the greater part of the time charged to makeready and may be materially, if not completely, eliminated in the composing room. This field offers the biggest opportunity for savings through the use of modern inspection methods and modern inspection equipment. A detailed explanation of these methods and the equipment required then followed. Mr. Hacker stressed the point that inspection in the composing room was the central idea of eliminating much of the present makeready costs.

Discussion

There is no logical argument that pre-makeready carried out by a plant in relative proportion to the type of work done (and the facilities of the plant) is not a most essential factor in the saving of valuable time. Averages show that makeready time under regular methods equals (and in many cases is more than) the running time which establishes the fact that presses are producing impressions less than one-half the time.

The question of a satisfactory treatment for plates mounted on wood, that were used several times a year brought this general statement: There is no definite solution to keep wood blocks positive; an air-conditioned plant has some advantages, but this does not eliminate the variation; laminated blocks are not the answer, for when they warp, they twist. Painting the entire surface of the block with several coats of aluminum paint was given as the best treatment for aiding in keeping wood base in good condition—it helps, but does not solve the problem.

Craftsman Watson, Toronto, stated that he had tried all practical treatments for wood base, but finds patent base the only reliable and positive method.

Craftsman A. W. Bishop, Chicago, speaking in regard to the precision insurance given by new patent base, cautioned thought on the fact that this precision lasted only as long as the base was kept in its original condition. Any accumulation of dirt, dried ink, or other foreign matter collecting on the base would immediately result in variances as plates were taken off and replaced by others. Inspection and constant care cannot be neglected.

"Typographic Layouts for Composing Room Use"

"Typographic Layouts for Composing Room Use" was the subject of the talk delivered by Glenn M. Pagett. Mr. Pagett is with the Typographic Service Company of Indianapolis and has been Secretary of the Indianapolis Club since its organization. Full of practical suggestions, his talk was an excellent discussion of the general subject of typographic layouts. Their reason for existence, methods of preparation, how to use them and many short-cuts to save typographic time and expense. The paper is certainly one of the most valuable ever prepared on this subject. It should find considerable use in advertising agency production departments. The principal advantage of using typographic layouts is that it pre-determines the results of the compositor's work, according to Mr. Pagett.

Discussion

The discussion following Mr. Pagett's comprehensive presentation of the value of layout in preparation of a job for production was general, participated in by many members of the group present. The verdict is that layouts in relation to printing is the same as an architect to building—he plans practically and his specifications fit the facilities of the plants productive set-up.

Tuesday Morning Session

An impressive feature of the talk on "Color—What It Is and How It Should Be Used" was the spectacular demonstration that accompanied it. This talk was the main educational item during the general convention session on Tuesday morning. The speaker, G. L. Erikson (Technical Director of The Braden-Sutphin Ink Company), had erected a screen, battery of lights and many instruments used in color work. The series of demonstrations that accompanied his talk made it most interesting and more easily understood.

The talk itself was so concise and full of facts that it is difficult to report it satisfactorily without reprinting it in entirety. The subject of color was first discussed, defined and analyzed according to the various viewpoints of the observer. The major color reactions of individuals and races, also the recommended uses of color were outlined. Erikson stated that overdoses of color or the incorrect use of it in printing and advertising are likely to prove fatal as far as results are concerned.

Three main phases of color are to be considered in determining its proper use, according to Erikson, namely—the stimulus which the eye interprets as color sensations, the reception and interpretation of these conditions and the effects produced by the color sensations. Each of these factors was described in much detail and in connection with elaborate demonstrations on the set-up apparatus.

Under the effects produced by the color sensation, color fatigue in the eye has received little attention thus far, although it is one of the most important factors governing the use of color in printing and advertising. The most persistent cause of color fatigue is the use of bright colored stocks or background tints for dark colored or black type matter. The legibility is poor and the eye fatigue set-up may cause drowsiness or even a headache. In any case it discourages further reading and a clear understanding of the type message. A number of examples were shown that would cause color fatigue.

Many very practical suggestions were enumerated as to the proper use of color and to obtain color harmony. In conclusion, Erikson stated that the use of color should be governed by a great deal of common sense while keeping in mind the fundamental principles involved. Good color combinations are the product of careful study and experience and not the result of guess or accident.

The Pressroom Clinic

The Pressroom Clinic, Monday, August 9, was attended by approximately 200 Craftsmen. After calling the meeting to order, Chairman Charles D. MacGregor of the Curtis Publishing Company, announced that L. W. Claybourn had been taken ill after arriving at the hotel in the morning and was unable to present his paper personally before the Clinic. Philip J. MacAteer of the New England Electrotype Company, Boston, read Mr. Claybourn's manuscript.

"Mechanical Progress in Letterpress Printing"

"Mechanical Progress in Letterpress Printing" was the title of Mr. Claybourn's paper. After outlining the changes taking place in all industries, Mr. Claybourn called attention to the general adoption of corresponding changes and advances in the letterpress industry. Already new methods and precision equipment are being used by a few in that industry. The developments have taken place and all of the necessary equipment is available to produce multi-color printing by precision methods at high speeds. Such methods of production have proved profitable and the product is of excellent quality. These changes are a reality and have come to stay.

He then outlined the fields of application and the various operations that should be done by precision methods as follows:—

(1) The locked-up form should have adequate chases that do not spring under lock-up tension with substantial bearers. All units in the form should be of one height. The form should then be checked on a precision proof press designed for the purpose.

(2) Corrected flat and curved electrotypes should then be furnished the pressroom.

(3) Standard gauges, registering devices and other precision equipment should be used by the printer to place these corrected plates on the press in a fraction of the time now required.

(4) Makeready will then be practically eliminated and by the use of high-speed rotary presses for one to five colors, precision printing can thus be produced.

In closing, Mr. Claybourn, through Mr. MacAteer, stressed the elimination of makeready and the production of printed sheets, either in black and white or in two, three, four or five colors printed at one time and in one operation are today an actual fact.

"Machinery Maintenance Is Makeready"

J. Gus Liebenow, Technical Editor of *Graphic Arts Monthly*, gave an interesting talk on "Machinery Maintenance *is* Makeready." He pointed out clearly and in detail the advantages to be gained by regular inspection, adjustments, repairs and attention to the machinery in the print shop. Among the items suggested for such attention were bearings, fountain rollers and blade, duct roller bands, ink plate, bed bearers, cylinder bearers and roller cores. Definite practical suggestions for eliminating troubles from defective parts as mentioned, were outlined.

"Modern Platen Press Development"

In discussing "Modern Platen Press Development," J. W. Kirkpatrick, Manager of Sales of the Chandler & Price Company, illustrated his talk with a large number of movie slides. The talk was valuable in that it clearly indicated the tremendous mechanical progress that has been made step by step since the early form of platen press. The development of the machine frames, impression controls, inking mechanisms, etc., were covered in detail by the speaker. The application of automatic feeders to the platen presses was also included in his talk.

"A Method and Use of Quick-Drying Inks"

Chas. D. MacGregor, Manager, Magazine Press Division, Curtis Publishing Company, presided as Chairman of the Pressroom Clinic. In addition, he presented a paper on "A Method and Use of Quick-Drying Inks." The problem to overcome was the slurring and lickoff encountered when four colors in quick succession were printed on a wet black ink on the two- and four-color Cottrell rotary press operating at a web speed of 300 ft. per minute.

The most satisfactory solution to date consisted of the use of a special ink in combination with a steam-heated drum having a positive drive and was synchronized in surface speed with that of the printing units. By this method, the first side printing is practically dry before it reaches the four-color unit. Many other methods that were tried were outlined and discussed.

The advantages claimed through the use of this method are improved legibility of text, full color, uniformity of quality, reproduction of light screen areas, elimination of special back up, increased brilliance, one less variable and no increase in cost.

Following Mr. MacGregor's talk, considerable animated discussion took place. The discussion indicated clearly the need for close co-operation between photoengravers, magazine publishers, ink manufacturers and paper manufacturers. It was even suggested that in order to accomplish something along this line, the Craftsmen's Research Commission should be used.

Committee on Officers Reports

Report of Basil M. Parsons, Providence, chairman Committee on Officers Reports, praised highly the work of the officers of the Association—each evidence of a year of progress and achievement.

Action on the recommendations presented in President Clark Long's report:

1. That means of compensation be set up for the editor of the *Share Your Knowledge Review*. Concurred by committee, referred to Finance Committee.
2. That a declaration of policy of financing be presented to the International Board, by clubs planning conventions and conferences. Committee on record concurring this policy in regard to conventions—but that District Conference policy be left to clubs abiding by the International By-Laws.
3. That the International Board be empowered to select the convention city—through studying condition of club, facilities of city, geographic advantages, etc. This recommendation was not concurred in.
4. That a Nominating Committee be added to the International set-up. This was concurred in by adding a new section to Article 8—this establishing a Nominating Committee to be made up of a chairman appointed annually by the president and the voting delegate from each club. This committee empowered to receive invitations of convention cities.

Cleveland Craftsmen Exuberate

The announcement by General Chairman Mac Sinclair that Cleveland had reached "tops" with a registration over the thousand mark brought a burst of enthusiastic applause. The Cleveland boys, headed by President John Knox, crashed down the aisle bubbling with happiness over the success brought by months of hard work. Noise-makers added to the din of the jubilant demonstration.

Offset Lithography Clinic

Harry A. Porter, vice president of Harris-Seybold-Potter Co., who served as chairman of the Clinic, in his opening remarks briefly referred to the history of the offset lithography process from the beginning in 1905 to the present-day development with its four-color press.

"Co-ordination of Reproductive Processes and Equipment for Advancing Offset Printing"

Frank M. Sherman, Advertising Manager of Lanston Monotype Machine Co. was then introduced to read the paper prepared by William C. Huebner of that company who could not fulfill his appointment. The subject was, "Co-ordination of Reproduction Processes and Equipment for Advancing Offset Printing."

Among the problems facing offset printing are the elimination of water on the plates; the need for original photographic images on film to preserve the edges, contours and corners of type faces; reducing the susceptibility of chemical change of the offset press plate; and the difficulty of setting and conditioning the dampening roller surfaces according to Wm. C. Huebner of the Lanston Monotype Machine Company in his talk on "Coordination of Reproduction Processes and Equipment for Advancing Offset Printing."

He gives the transferring of ink from press plates to offset blankets to paper at a minimum of pressure as the main reason for the existence of offset printing today. Additional advantages enumerated were the speed and lower cost of producing press plates, the short idle time between jobs, and the saving in makeready time.

Edward J. Ryan of Newark, N. J., seems to be amused by something said by Basil M. Parsons of Providence, R. I., (right) while Heywood Hunt of San Francisco and editor of Share Your Knowledge Review, *looks on with editorial circumspection.*

Huebner states that the number of reproduction steps must be shortened, the chemical operations must be more certain in their functions, the transfer of ink from plate to blanket to paper must deliver finer gradations and greater brilliancy in black and color illustrations, and also sharper and greater uniformity in text printing, if offset is to expand its field of usefulness.

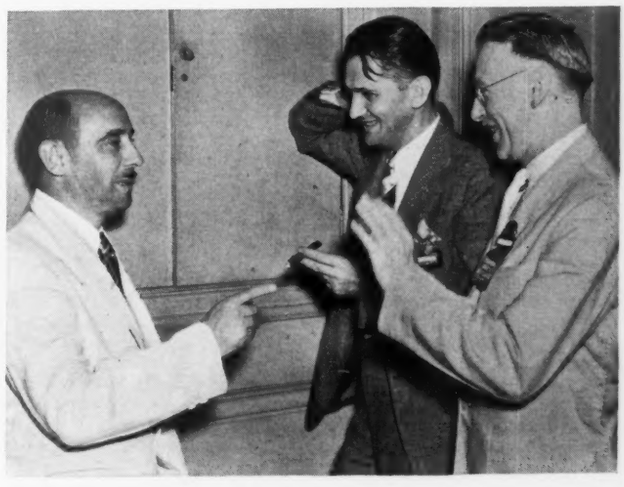
A resume of the research work being done to overcome these problems and the results thus far accomplished was given. A fundamental statement made by Huebner is that satisfactory and dependable production results by simple methods will prevail over personal opinion as to correct technical procedure. A brief description of some of the latest equipment and procedures indicated considerable possibilities ahead for offset printing.

"Developments in Offset Inks"

In his paper on "Developments in Offset Inks," James Beckett, Vice President of The International Printing Ink Corporation, pointed out that pure research on the fundamentals of printing inks had not been done prior to the depression. During the past few years the Ink Industry has vigorously promoted and conducted scientific research. This research has been conducted under two major headings in the successful laboratories—pigments and vehicles.

He names as the outstanding research contribution to offset inks in the past fifty years, the development of the New Monastral or Syan Blue. This is an entirely new color, somewhat redder than Peacock Blue, extraordinarily permanent and strong, and acid and alkali proof. The development of the phosphotungstic colors in purple, green, blue and red—all of them not only brilliant, but strong tinctorially and

Harry Little of R. Hoe & Company, Inc., (a speaker at the Gravure Clinic) tells one for the benefit of C. Harold Lauck, Journalism, Laboratory Press, Washington and Lee University (center) and Harold D. Spencer of Milwaukee-Racine Club during the XVIII Annual Craftsman's Convention held at Hotel Cleveland, August 8 to 11.



permanent has also been a notable step in the preparation of offset inks.

A new synthetic vehicle has been worked out to substitute for the previously used linseed oil varnish. Some of the advantages claimed for these new vehicle inks are—more scratch-proof, dry faster (tin printing inks using synthetic vehicles dry in 6 min. as against 20 min. for the linseed type), dusting bronzes adhere less readily, lifts off the blanket clean, gives stronger impression and they may be run with a minimum amount of acid in the water fountain. Still greater strides are predicted in the vehicle research field.

Some of the problems still ahead for study were enumerated as follows—the determination and measurement of the printability of an ink; determination of correct film thickness, the factors that govern lifting of an ink and the effect of these two on the quality of the finished product; an accurate method for measuring the tack of an offset ink. If the offset industry is to progress, ink and paper must advance. The printing art is not purely mechanical. The paper research laboratories are giving excellent cooperation to the various ink investigations according to Beckett.

"Paper Developments in Offset Lithography"

Summerfield Eney, Jr., a member of New York Club gave an informal talk on "Paper Developments in Offset Lithography." He referred humorously to troubles encountered by lithographers saying that if everything was perfectly organized he would not have a job as "trouble shooter" for the Champion Paper & Fibre Co. He related some of his experiences in the Graphic Arts from the time he was employed 45 years ago as an errand boy in a lithographic plant in Baltimore of which the late Joseph Deutsch of Chicago was foreman. He mentioned that he was daily sent out for beer which was drunk while fresh by the men and the "stale beer" was used for aiding in the process of doing lithograph work. He then told of his observations of the workings of the Lithographic Technical Foundation, commenting upon the scientific basis of operations today compared with the "rule of thumb" methods of the old days.

"The good old days are all hooey to me," he said. "The young men of today are working rings around us old-timers, but we have done a good job of it until now."

Mr. Eney explained how improvements of the present day have enabled lithographers to print both sides of hard surfaced coated paper which a few years ago was considered impossible.

The Gravure Clinic

M. Raoul Pellissier, Chairman, Director Gravure Foundation of America, N. Y., presided as chairman of the Gravure Clinic.

"Running a Gravure Plant"

Unfortunately, John F. Schuerich, Manager of the Gravure Division, Art Color Printing Company, Dunellen, N. J., was unable to deliver his contribution personally. His paper, entitled "Running a Gravure Plant," was read by J. Homer Winkler, Cleveland. Essentials for the successful operation of a gravure plant were outlined clearly. Among the necessities enumerated by Schuerich were a capable organization personnel and a sound psychological treatment of various situations concerning the individuals as necessary, a good understanding of men and their failings as well as their good points, the best of materials and equipment, the minimum use of plant forms to be used by the personnel and insistence on good copy.

The necessity for a thorough understanding of paper stocks, particularly with respect to finish and sizing was stressed. Equally important is a knowledge of inks. Schuerich stated there is no economy in using cheap ink. In conclusion, he pointed out the value of soliciting and carefully considering suggestions from any source because of the tremendous possible value of an occasional one.

"The Lumitron"

A demonstration of the Lumitron Light Measuring Meter was made in connection with a talk on "The Lumitron," by Carlton E. Dunn, Vice President of George Murphy, Inc. This instrument enables the gravure printer using autotype carbon pigment paper to print without variance a specified number of light units and to increase, decrease or duplicate the same amount of light regardless of fluctuation of the light source. The Lumitron was introduced into this country last year (1936). It was designed by the Laboratorium Strauss of Vienna. The necessity for the instrument was caused by the great variation in the actinic value of light from light sources that frequently fluctuated as much as 25%. The machine is claimed to have proved its worth in large plants where duplicate prints are made from one positive and etched at one time on the same cylinder by giving uniform etching not obtainable with clock-printing time.

Wednesday Morning Session

"Problems of High-Speed Web Gravure Printing"

Harry Little of R. Hoe & Company, Inc., presented a paper on "Problems of High-Speed Web Gravure Printing." He stated that problems arising during web press printing of gravure at higher speeds than previously known are solved by adjustment of the three basic factors, paper, ink and press: with increased emphasis on the press. Automatic controls are operated on all three factors because of the product waste that would be entailed in manual correction. The above problems and methods of overcoming them were discussed in detail. In the design of this press, two important factors must be served—the press must be operable at all times regardless of minor factor failures and that all adjustments affecting the product may be made from a safe position while the press is operating. Commercial jobs have been run in one color on a medium weight supercalendered gravure news stock at a web speed of 1700 ft. per min.

He gave as reasons why gravure appeals to the printer—the simplicity of the gravure printing operation, no makeready is required and the speed of production possible. Gravure printing has a reader interest that is due to the depth of color secured by depth of etching, thus resulting in a true reproduction.

Considerable data on gravure production, applications and results of a Gallup Research Survey of reader interest in gravure were included in this excellent paper.

"Gravure Developments and Trends"

The use of gravure is likely to increase at a much faster ratio in the near future because so many people are working on improvements and it is making so much headway all over the world, according to Chairman M. Raoul Pellissier. In addition to acting as chairman of the Gravure Clinic, he presented a most comprehensive summary of his paper, "Gravure Developments and Trends." Among the important developments he lists the Eastman Densitometer, the Lumitron (described by Mr. Dunn in a separate paper during this Clinic), a machine that dry sensitizes carbon tissue, a machine that produces photographic type on transparent films—either straight or reverse, the reversed halftone process and the Rinco process. This last named process was outlined and has succeeded in simplifying gravure cylinder production and reducing the time required.

A discussion of methods recently developed to aid in producing more than one set of cylinders for color work that are identical was made. The methods for using previously made four-color process plates as gravure copy and eliminating the moire effect through the use of grained gravure screen or the introduction of a thin sheet of cellulose material between the carbon tissue and the screen were described. A new transparent material to use for pulling progressive proofs in one color and which is matte on one side (allowing retouching) and which can be used as actual positives is now on the market.

Much of the trouble of matching colors and sets of gravure cylinders can be overcome if standard pigments of the four colors are selected and the same pigments used in preparing the color filters, artists' copy and gravure inks.

Developments with flat gravure plates that are curved around a cylinder when run were described as they are being used in England. It should be possible to electrotype gravure plates where duplicate sets are necessary, according to Pellissier.

In sheet-fed gravure it is necessary for either the plate-maker or the printers to start the investment. Printers do not want to buy presses unless a source for plates is available and plate-makers do not want to install the equipment to manufacture gravure plates unless there are presses to feed. Pellissier feels that an obligation rests on the press builders in this case to begin operations.

Among the uses for gravure other than newspaper supplements, magazines and direct mail, he named packages, cartons, leather for shoes and other purposes, oilcloth, imitation marble and tile, instrument boards for automobiles, British, Egyptian and Chinese postage stamps, for printing on cellophane, linen tape, tags, metal, laminated metal materials and metal foils.

The cooperation between manufacturers of gravure inks and papers and gravure houses has been excellent. The process is now safe for anyone to go into. An increase in popularity of this process is predicted on account of its extreme richness coupled with softness of tones, also because of its relatively cheap cost and speed of production.

"Air Conditioning in Commercial Printing Plants"

"Air Conditioning in Commercial Printing Plants" was the title of the principal address delivered by R. T. Williams of the Carrier Corporation during the Wednesday morning session. Because all of the equipment (alive and mechanical) in a printing plant works in a bath of air that affects the quality of the product, Williams considers air as one of the raw materials used by a printing plant. A complete air-conditioning system controls all of the characteristics of air such as temperature, humidity, movement and cleanliness. Referring to a chart, he then pointed out clearly the departments of a printing plant together with the atmospheric characteristics which particularly affect them and should be controlled. The personnel may be considered the most expensive equipment of a printing establishment. Efficiency of personnel is a direct function of fatigue and fatigue is, among other things, a function of atmospheric conditions. Considerable data exists that conclusively proves air-conditioning is worth the money it costs from the standpoint of increased efficiency, more accurate work, less sickness and less friction.

The average printing plant does not collect sufficient data to show one way or another whether air-conditioning is needed. Williams stated many minor delays and leaks, that are never recorded on any records he has ever seen, are entirely attributable to fluctuating weather conditions. The increased production and economies resulting from air-conditioning in printing plants are not to be expected in one lump but rather in the elimination of a host of small and individually unimportant delays. The printer has come to consider many items of expense as normal that could be materially reduced or entirely eliminated with the use of air-conditioning.

"We Took Our Own Medicine"

TOLD TO MAC SINCLAIR BY H. A. PORTER*

Cleveland Plant of Harris-Seybold-Potter Company undergoes equipment modernization and production line changes.

A VISIT to the Cleveland plant of the Harris-Seybold-Potter Company unfolds before the eyes of the visitor many details intimately connected with modern manufacturing magic. Really, one can't grasp the infinite care employed in the making of the many parts which go into a printing press unless he has been taken through the factory. All of the parts from which a press is fabricated pass through many hands and must be made to close tolerances. Yet after being assembled into the press, each of those parts fits perfectly into the scheme of things.

The writer paid a visit to the Harris-Seybold-Potter plant recently upon the invitation of H. A. Porter, Vice President in Charge of Sales. After being ushered into Mr. Porter's office, the writer said:

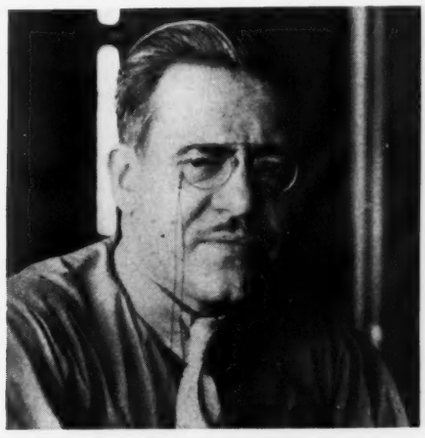
A. F. Harris, founder of the original company which was incorporated with others under the name of Harris-Seybold-Potter in 1927. Is chairman of the board. Father of A. S. Harris, Vice President in Charge of Engineering. It is a matter of history that in July, 1898, the present method of offset printing was born as a press operator missed feeding a sheet of paper. In those days presses were not equipped with throw-off devices. Mr. Harris, with his brother Charles, worked together for many years developing and perfecting automatic printing presses. President R. V. Mitchell of the Harris-Seybold-Potter Company stated recently that "The spirit of A. F. Harris has permeated this business since its inception and not a man in the organization would be false to it. Mr. Harris is at his desk every day. He never misses. The door of his office is never closed to any man in the organization. I am proud to be associated with him."

"Mr. Porter, I have come out to get some information about the Harris-Seybold-Potter factory and the manufacture of printing presses for our production and mechanical executive readers. This article will be read by printing production men. While the manufacture of lithographic printing presses does not bear any exact resemblance to printing production, yet our readers will be interested in learning something about your factory."

"We Took Our Own Medicine"

"Before we start through the factory," said Mr. Porter, "I want to tell you that all of our executives and representatives have always discussed obsolescence upon every occasion possible as it affects production costs in the printing plant. We have also encouraged our customers to adopt straight-line production methods in their printing plants. Now, to be consistent in our attitude, we took our own medicine, so to speak. During the past few years we have followed an equipment modernization program in our own factory. While we are going through the factory you'll see a $50,000 planer-type milling machine which we are installing. Its base weighs 25 tons. It is used for milling the side frames and bases on our largest presses. During the past three months we have been rearranging our entire factory operation on a straight-line production basis. These are the reasons why we are proud of our factory and why we always welcome printing executives to visit our plant.

"So your request," continued Mr. Porter, "for information about our production methods will no doubt be of interest because we have the same kind of problems as do our customers. The shortest distance between two given points is a straight line. Therefore, as in the printing plant, economy in production costs lies in getting out the work in the direction of that straight line."



H. A. Porter has been with the Harris-Seybold-Potter Company since he was 19 years of age. Lost his father at an early age. Regards A. F. Harris, founder of the company, in the light of parent. Mr. Porter is well known to printing executives and Craftsmen throughout the country—is much in demand as a speaker.

New Factory Addition

The Harris-Seybold-PotterCompany has just completed a modern saw-tooth roof addition to its group of factory buildings. The new addition occupies a space 150 ft. by 224 ft. and is used principally for erection floor, factory offices and pre-assembly space. The executive offices are located in a separate modern building which was erected in 1935.

On the way from the office building Mr. Porter observed:

"Here at the Cleveland factory are made Harris offset presses ranging in size from 17 in. by 22 in. up to and including 46 in. by 68 in. four-color presses. The range in price is from $5000 to $72,000 each.

*Vice President in Charge of Sales.

Front elevation of Harris-Seybold-Potter office building erected in 1935. All of the executive offices are housed in this building.

"While offset printing press manufacture is the biggest part of our business, we recognize that letterpress, offset and gravure all have their proper places in the industry. We manufacture presses for all three processes."

According to Mr. Porter and in spite of the fact that executives have been busy rearranging approximately 190 machine tools for straight-line operation, the company enjoyed during the past three months the greatest business in its history.

Straight-Line Production

"As I have mentioned previously," said he, as we entered the factory, "we have been busy during the past three months rearranging our factory equipment for straight-line production. Our scheme for operation means that the raw materials are brought in at the rear of our factory. These materials are passed from operation to operation progressively through the factory until they reach the assembly and erection floors where the presses take definite shape. After being tested and adjusted under actual printing conditions, the presses are packed for shipment and are placed in railroad cars on a siding alongside the shipping room without any back-tracking of operations during the entire manufacturing processes. The same plan is followed where shipments are made by truck.

"The manufacturing operations in order are (1) Receiving raw materials, (2) Sand blast and cleaning of castings, (3) Fabrication of parts, (4) Inspection of each part, (5) Lacquer and polish parts, (6) Assembly, (7) Erection floor (8) Test and final inspection and (9) Shipment.

"All of our machine tools are spotted on either a mass production or jobbing basis to fit the requirements of our manufacture. Maintaining a continuous production line means that production must be carefully planned. The sequence of the operations mentioned is carefully planned in advance by the Planning Department in charge of R. C. Hanford, Production Engineer. All manufacturing operations are in charge of H. P. Bly, Superintendent.

"The erecting floor which you see here, is divided into what might be termed pre-assembly and erection. For instance, pre-assembly means that the inking mechanism or a pile feeder are assembled as complete units before being delivered to the erecting floor. In our new layout we maintain three pre-assembly bays. As the units are completed, they are delivered to the erecting floor. All non-assembly parts are delivered by truck to the erecting floor. Each of these trucks contains the required number of non-assembly parts before the truck is delivered to the erecting floor."

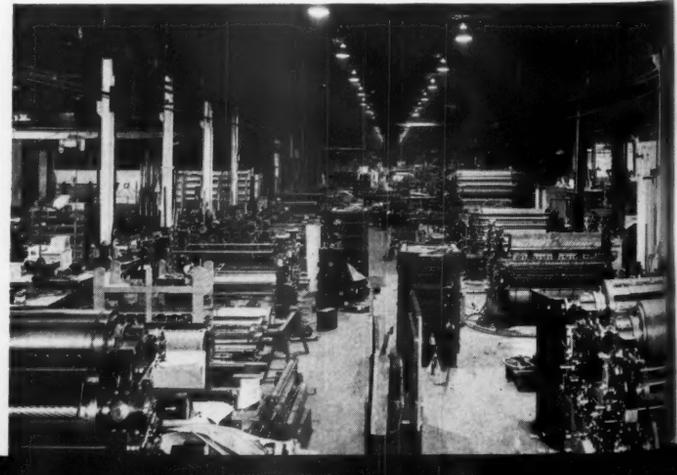
The writer asked Mr. Porter if production is ever held up because a certain part has not come through on schedule. "This is just the sort of occurrence our planning department avoids. Once in a while we might have the experience," said he in reply.

"In employing straight-line production methods it is important that no operation nor part be omitted from the work flow. When one is told that our presses are composed of parts ranging from 2000 to 8000 pieces, it can be seen that if one part is missing when the parts for a complete press are delivered to the erecting floor, that the erection of the press as well as those immediately following will be delayed."

Cylinder Making

Mr. Porter explained to the writer one of the interesting operations used in making press cylinders. Before being machined, all impression, blanket and plate cylinders, as well as side frames are placed in a heat-treating or normalizing furnace under pyrometer control. This heat treatment takes all the strains or tensions from the castings. After being subjected to a certain temperature

View of offset printing press erecting floor in Cleveland plant of Harris-Seybold-Potter Company. Here presses, costing from $5000 to $72,000 each, are erected and tested under actual printing conditions before shipment to the customer.



for the proper period of time, the heat is turned off and the furnace is permitted to cool gradually. The cooling of the furnace requires from two days to a week depending upon the season of the year.

After removal from the heat-treating furnace, the cylinders are sand blasted, machined and ground in special machines. While being machined the cylinder is left slightly oversize and is assembled into the press. Before shipment of the press each cylinder is returned to the special machine for accurate grinding to proper size on its own journals.

Factory Production Control Board

A control board which occupies an entire side wall in one of the planning department offices is rather interesting to the layman. However, it is only fair to state that unless it is explained to one unfamiliar with its operation, it is totally an unintelligible device. The control board is used to tell how long it will take (for instance) to make a lot of fifteen presses from raw materials to the finished product for shipment on certain estimated dates. From day to day the board also tells the state of completion of each press in a lot. By its use, executives of the company are able to guarantee shipment of its presses on time or ahead of time after receipt of the order.

The board resembles a piece of glorified tabular composition such as can be seen in a magazine or newspaper except that it is in giant form. Black metal weather-stripping superimposed in horizontal rows extend nearly to the ceiling. It is said 20,000 copper nails were used in assembling the weather-stripping to the board. At the top of the board and extending from left to right in a horizontal row are divisions representing the months of the year.

"When an order for a lot of 15 presses is about to be put through the factory," explained Mr. Porter, "fifteen separate cards are mounted in staggered form one above the other in the slits provided by the weather-stripping and under the month shown at the top of the board which corresponds with the order date. The cards contain all of the necessary data relative to each of the manufacturing operations involved in making the presses.

"The expected finish dates of the presses and the intermediate dates showing manufacturing progress is put on the cards. We are able to do this because we have just so many available production hours per day in our factory and we have definite data on the length of time required for making each press part and just how many parts are in stock or in process of manufacture. A group (lot) of presses, therefore, is plotted against the number of hours available (those hours not already occupied) in the factory.

"To determine at any time the state of manufacturing progress of a group of presses, a vertical cord extending from top to bottom of the board and mounted on a roller frame, may be moved to index a press lot with the manufacturing data some distance above.

"In plotting the number of hours for press production it is always our custom to add sufficient hours to allow the men in the factory sufficient leeway so that they will have an incentive to 'beat the schedule' date. Thus you can see that human nature is involved in our plan of operation. Another object in providing this leeway is to protect ourselves against unforeseen emergency stoppages in production."

This picture shows one of three pre-assembly bays in Cleveland plant of Harris-Seybold-Potter Company. On these level planed cast iron tables are being assembled inking mechanisms for offset printing presses. The inking units thus assembled are then taken to the press erecting floor. Such hand fitting as may be required is done on the benches at the left. Part of the assembly stock room is shown at extreme left.

The Research Department

An interesting feature of the Harris-Seybold-Potter plant is its chemical research department in charge of Chief Chemist William H. Wood. A complete laboratory is maintained for investigational and developmental work which includes offset-litho plate-making processes.

General view, Cleveland plant, Harris-Seybold-Potter Company, where offset printing presses are fabricated. New saw-tooth roof factory addition is shown at right. A railroad siding (not shown) extends into the shipping department.

Chandler & Price

By STAFF WRITER

Interesting information (mostly pictorial) about an old established printing equipment manufacturing concern and some of its executives.

← R. J. Frackelton, President of Chandler & Price, has been associated with the company since 1895.

D. W. Frackelton, Chandler & Price's Vice President, joined the company in 1913. →

THROUGHOUT the machine shop in the manufacturing plant of the Chandler & Price Company one can observe modern equipment and production methods usually seen only in automotive plants but it is the proud boast of Chandler & Price executives that the prevailing automotive methods were in use in this plant long before those methods were adopted by automobile manufacturers.

Back in the early 80's, H. T. Chandler, formerly a private banker from Illinois and W. H. Price, a mechanic serving the Cleveland Type Foundry, entered into a partnership and organized the Chandler & Price Co. They built a three-story brick building 40 ft. by 80 ft. on a siding of the Pennsylvania Railway and started the manufacture of the Gordon type of platen presses. Volume of business in the beginning was small compared to present amounts but nevertheless at the end of the first nine years of the partnership this company grew to be the largest manufacturer of platen presses in the world. Agencies have been established in practically every country in the world and rare is the printing establishment that does not have in operation one or more of the products manufactured in this plant. Briefly the business maintained by the Chandler & Price Co. now includes hand and automatically fed platen presses, lever, hand-clamp power and automatic paper cutters, letterpress automatic cylinder and offset printing presses.

The present plant is located on the original site but now covers four acres of floor space. Power for the operation of the plant is manufactured by the company.

A foundry (very unusual in its layout) is also included in that the cupolas of 30 tons daily capacity are located on the third floor where the molding is done. Completed castings flow progressively from floor to floor by gravity slides while the raw material such as pig, coke, scrap, etc., are conveyed to the third floor by elevators leading directly to the cupola platform. In the yard the writer observed a large volume of pig iron said to be a year's supply as an advance acquisition to protect the company's customers against price increases of raw materials.

Thousands of parts move through the plant daily and finally after machining are delivered to the company's stock room where hundreds of thousands of these parts are ready for shipment. When it is taken into consideration the length of time this company has been in existence the problem of servicing presses and cutters manufactured is not an easy one but it is a policy of the company that when an order comes in for parts for any of its machines the order must be filled and shipped within twenty-four hours and very seldom is this policy broken.

Shipments of finished machines, both domestically and abroad, present interesting problems. Export machines must be completely enclosed against the corroding effects of salt water and in many cases dismantled and packed in several bundles. For example, when a press is to be shipped to some sparsely inhabited country it has to be prepared for mule-back shipment for transportation on a sling suspended between two mules.

Due to the sound policies of the original founders and the continuation of these policies by its present managing executives, the business has grown consistently so that up to this time more than 100,000 Gordon Presses have moved out of the plant to all parts of the world.

The two pages of pictures accompanying this article will enable the reader to visualize the intricacies of the precesses and the large investment required in machinery for such large-scale manufacture of modern printing equipment.

CHANDLER & PRICE EXECUTIVE GROUP

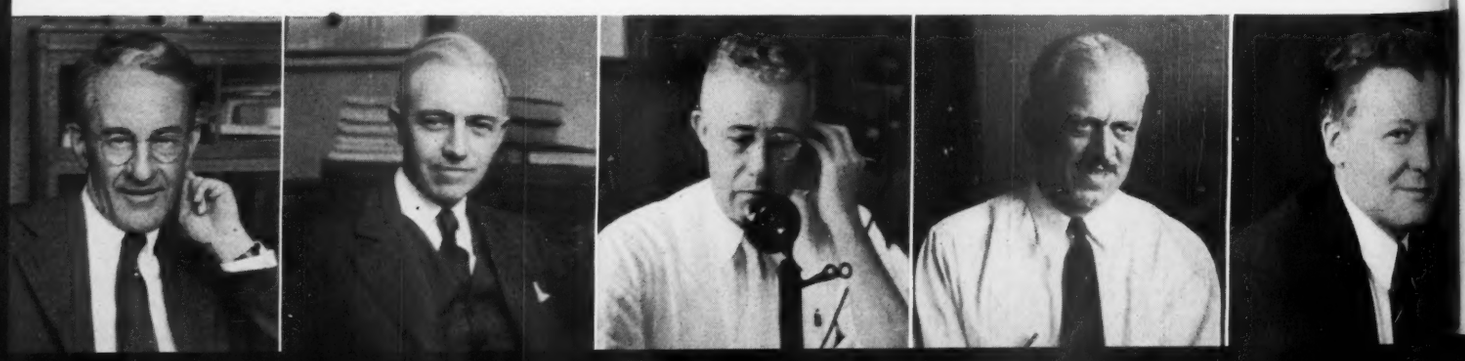
J. E. WILKISON
SECRETARY

R. S. TYLER
WORKS MANAGER

J. W. KIRKPATRICK
MANAGER OF SALES

F. D. McLAUGHLIN
PRODUCTION MANAGER

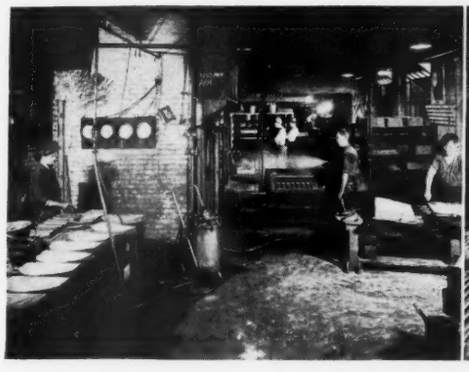
W. P. MOAK
IN CHARGE OF OFFSET DEVEL



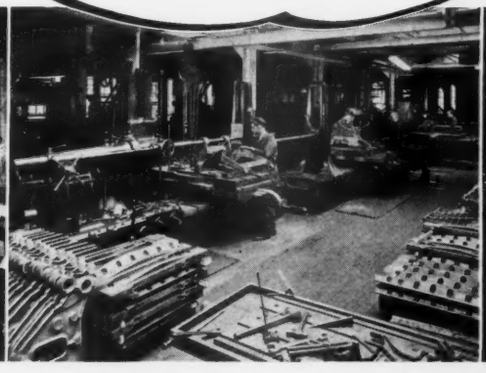
The Romance

OF PRINTING EQUIPMENT MANUFACTURE

View of section of the iron foundry in plant of the Chandler & Price Company, Cleveland. The foundry is located on the third floor of one of the buildings. There are two cupolas and the foundry is of 30 ton capacity. All pouring is done on the third floor. In the section illustrated small parts are cast. The greater portion of the castings are semi-steel. In another part of the foundry the large castings, such as the press bases and automatic cutter frames, are cast. Finished parts are moved to the floor below by gravity chutes.



View of the core room. When molds for parts need filling in for openings to be incorporated in finishing castings a special mixture of sand is molded to shape to supply the opening and then placed in ovens to bake. This picture shows cores for paper cutter binders about to be pushed into the oven for baking. The ovens are held at exact heat required by means of pyrometers.

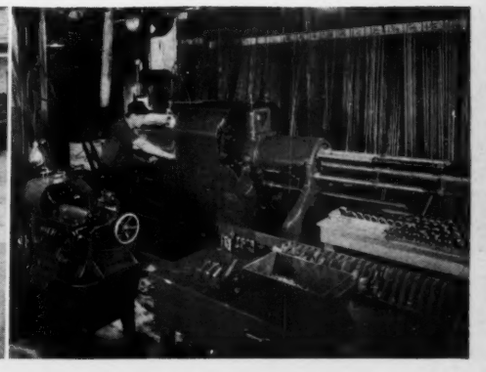


On the first floor, large machinery, such as planers, boring mills, milling machines and drill presses are located. Included in these are multiple spindle drills which drill as many as 20 holes at one operation. In this picture are shown three large boring mills: (1) Boring bed of a Gordon press; (2) Boring one-piece frame for Rice Unit; (3) Milling a binder for 50-in. paper cutter. In the front are shown castings ready to be machined.

Here is shown the largest of a group of planers. Four operations are performed on this planer at one time; two sides of a paper cutter bed are being planed simultaneously and a roughing cut on the table top is being followed by a finishing cut. In the background will be seen a pile of finished paper cutter beds. The direction of this planer table is reversed electrically. The control cabinet may be seen back of the operator.

The multiple setup vertical turret lathe performs a variety of operations at one setting. The Turret Heads of these machines can be moved to any one of several positions for machining operations.

On parts requiring close tolerances or high finish, one of these modern surface grinders is brought into play. The second machine shown in the picture is a double spindle vertical milling machine of the planer type. This plant has been modernized through the addition of the latest and most modern types of machinery.



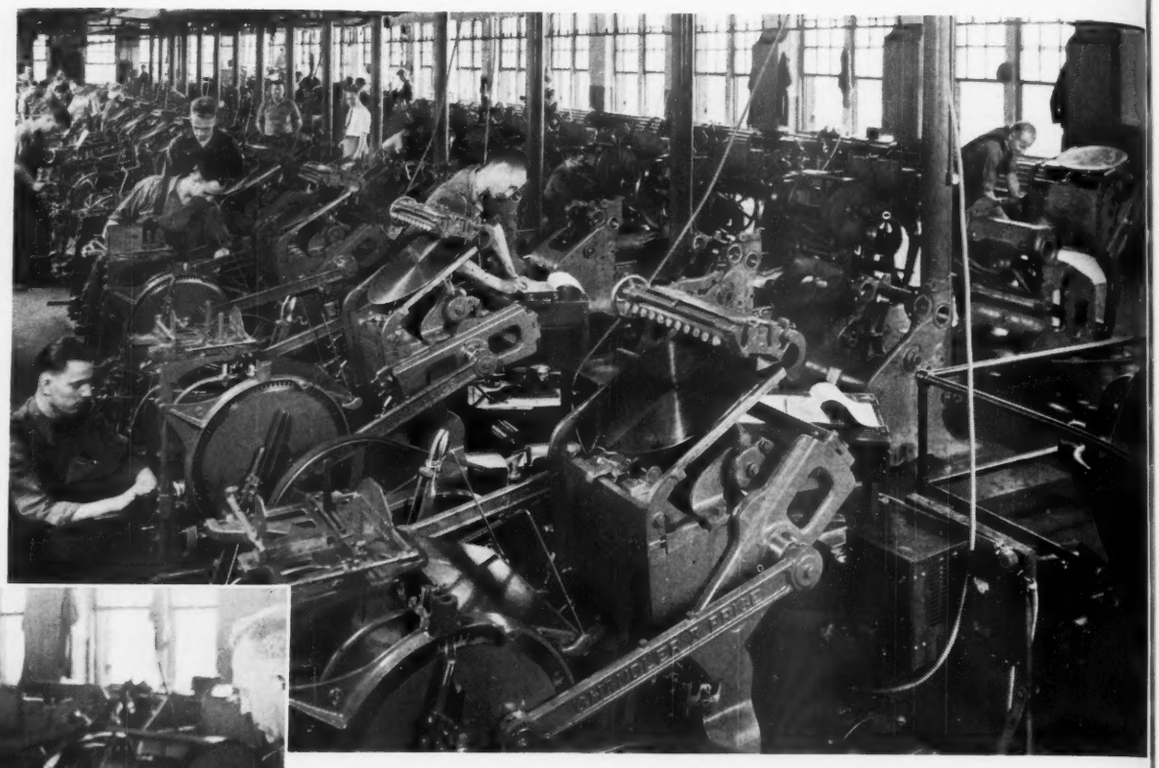
Here is shown one of a battery of three new automatic screw machines costing approximately $30,000. These machines will handle bar stock up to 2¼ in. diam. Many parts, such as screws, roller trucks, etc., are fabricated automatically. There is also a large department containing hand screw machines for small run parts.

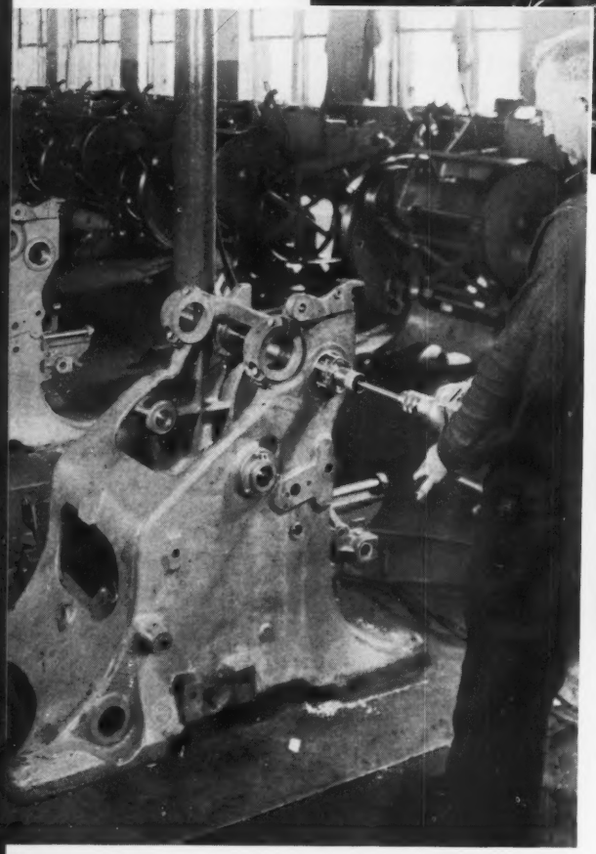
The view of this room shows internal grinders, engine lathes, Gisholt and Warner & Swasey horizontal turret lathes. All shafts and other round work are finished in this department. Samples and quantities are shown in foreground.

View of the hand fed press assembly line. Many a printer got his start operating presses of this type.

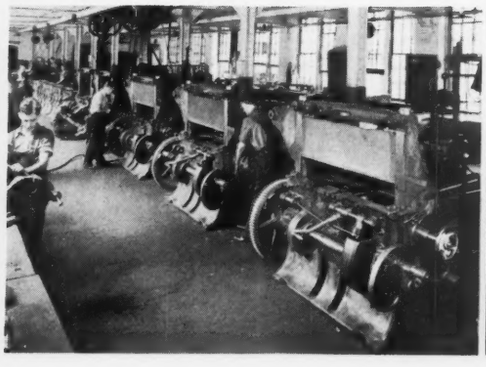
These cylindrical grinders operate upon those parts where very close tolerances are required.

Almost one hundred Chandler & Price Automatic Presses in the assembly line. All of the presses shown in this illustration were sold before being completely assembled. Each press on the assembly floor is inspected and is operated under actual printing conditions. The man in the center of the picture is making up a test report. Both the inspection and test reports are filed for reference. The presses on the assembly floor are put through their paces to see that they function properly and meet the guarantees of the manufacturers. Two (sometimes three) inspectors pass on each press before it is removed for shipment. The presses shown in the picture range in size from 10 x 15 to 14½ x 22. When the press has arrived at its destination, an expert demonstrator will show the proud owner how to operate it properly.





The man in the illustration is honing the main shaft bearings on the one-piece Rice Unit frame. The honing is done by a number of stones mounted on the tool. A pilot runs through from one bearing hole to the other to keep the bearings in perfect alignment. A universal joint is interposed between the honing tool and the electric motor to prevent misalignment in case the operator is not standing in just the right position. This honing operation produces close tolerances and smooth running bearings which will stand up during long periods of service. All important bearings in the Rice Unit are bronze bushed and are honed.



Section of the automatic cutter assembly floor Chandler & Price executives state this part of the company's business has grown greatly in the past two years. This type of cutter is used in the Government Printing Office and in many other large printing plants in the country. In addition to the automatic cutters, the company turns out each year hundreds of lever and hand clamp power paper cutters in a multiple of sizes ranging from 19 to 34½ in. capacity.

View of part of the Chandler & Price cyli press department.

Small cutters are produced in large quantities. View shows a battery of 26½ in. lever Cutters about ready for the printer.

Plant Is Air Conditioned

By STAFF WRITER

The new home of Youngstown (O.) Vindicator *provided with fine lighting facilities — New Goss 8-unit press installed.*

THE entire publication and production personnel of the Youngstown (O.) *Vindicator* is now comfortably housed in its new home. Aside from the new equipment installed previously in the new building, some old equipment was moved from the old building on Sunday, July 25, immediately after completion of work on the Sunday paper, under direction of Publisher Will Maag and Mechanical Superintendent Leslie Griner.

The construction of the *Vindicator* building is unique. Constructed some years ago under the direction of James William Thomas, Cleveland Architect, for the old Youngstown *Telegram*, the original building was two stories in height. The new home now consists of three stories 91 ft. by 137 ft. 6 in. In addition, a block, 51 ft. by 48 ft. has been added to the ground area.

Construction of the building is part reinforced concrete and partly steel frame. The pressroom is of steel frame and the new third floor is of concrete. Mr. Thomas states that in adding the third floor there was no construction difficulty as the building was originally built with the expectancy that such an addition might be made some time in the future.

Air Conditioning

The *Vindicator* building is air-conditioned. For this purpose a well was drilled and an underground reservoir provided. The water in the reservoir is 54 deg. temperature. From 85 to 100 gallons of water per minute are needed in the building. All the water is used twice, first in the cooling system, then in the various departments in the plant, such as the photoengraving and stereotype departments.

Steam heat for the building is supplied from a central heating plant by Ohio Edison. Lighting is furnished in the offices from Westinghouse semi-direct lighting fixtures. In the composing room and stereotype departments glass steel fixtures and Curtis light hoods furnish artificial illumination.

Mercury Arc Rectifiers

Electricity for power and light enters the building as alternating current but is converted to direct current by Cline mercury arc rectifier equipment. For the presses, 220 volts d.c. is used. For lighting 110 volts is furnished. The composing machines use either 110 volts or 220 volts. One mercury arc rectifier carries the entire load for the plant. The second unit will be used only in case of breakdown of the first unit.

The Mechanical Departments

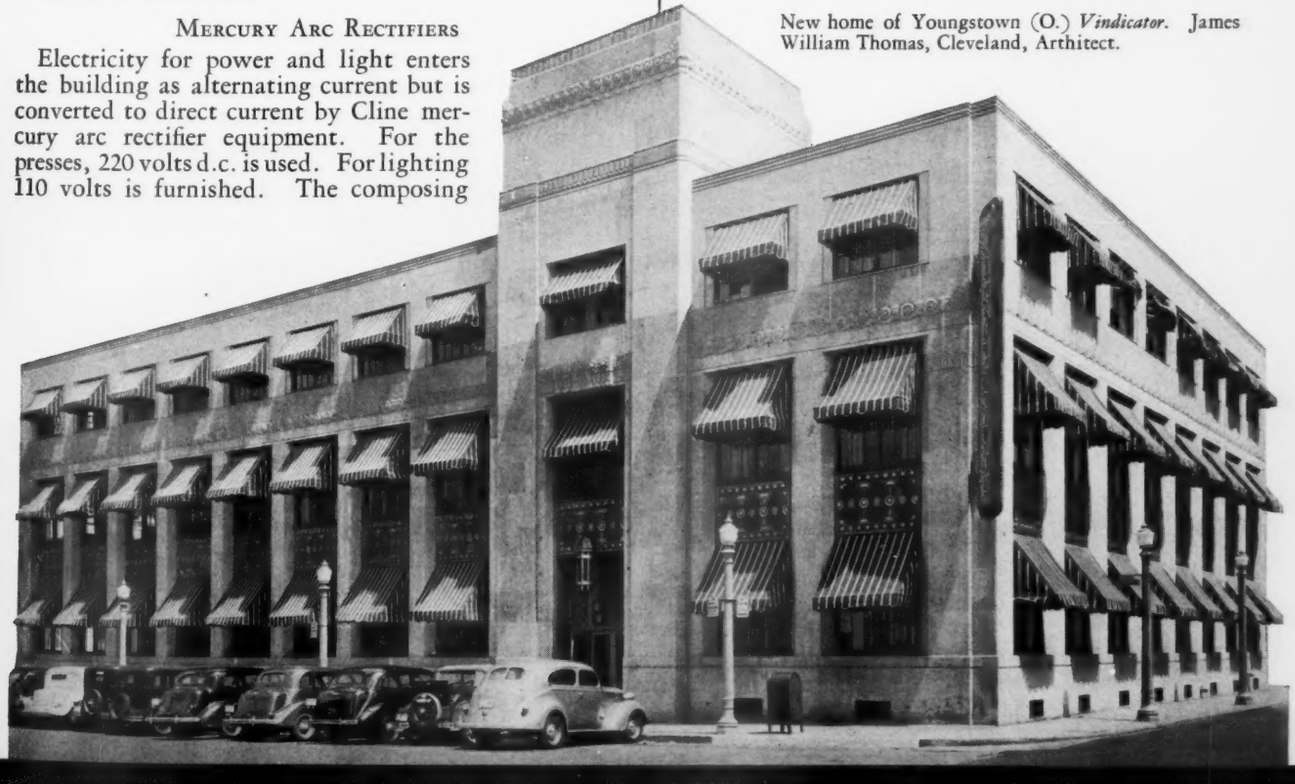
At the time of the writer's visit to the *Vindicator* plant, one would not suspect that much of the production equipment had been moved only two days previous. Production proceeded just as though no interruption had occurred. While various executives were busy with their regular duties, every consideration was given visitors. Superintendent Griner's mechanical executive staff were dressed for any emergency (as the accompanying illustration will show) but while the writer was in the building nothing happened to interrupt production. This speaks well for the carefully planned move from the old into the new quarters.

The Composing Room

The composing room, supervised by Robt. McK. Fisher, has been arranged for efficient operation. The floor is of wood block. Besides splendid daylighting facilities admitted into the room through large windows on two sides of the room, special attention has been paid to artificial lighting equipment. Curtis reflecting type Strip-Light fixtures are suspended over the makeup tables and truck areas. The illumination is pleasant and eye-strain has been eliminated.

The type composing equipment consists of 27 machines. Two of these are Model 30 Linotypes which are being used for headletter composition. One of the new Model 30 machines contains a six-mold disk and automatic quadder. Two new Intertypes of the latest design with 48 magazines stored in convenient racks, are used for display composition. Automatic quadding mechanism is incorporated in the new Intertype display machines.

(*Continued on Page 27*)



New home of Youngstown (O.) *Vindicator*. James William Thomas, Cleveland, Arthitect.

Rotary Press

(*Continued from Page 17*)

are controlled down to a basis of 0.0005 in. The only variable element about the whole printing operation is the thickness of the paper itself, which variable factor can be compensated by the use of the micrometer attachment controlling the adjustment of the space between the flexible printing plate and the impression cylinder. This micrometer adjustment device is located near the push-button which controls the electrical operation of the press.

The printing plate which is 0.012 in. thick, looks much like a plate used on an offset press. It is made by a photoengraver like any zinc etching or halftone, and is flat. It gets its curved shape and solidity by being wound around the steel cylinder. One plate—made from a proof of type and pictures—etched the usual depth of 0.005 in.—was used on an experimental printed job on enameled paper, and after making 900,000 impressions was still in good condition. The explanation for this achievement was that the rigidity of the press itself and the precision of the various parts, required a "kiss impression" from which the rotating printing plate did not suffer any wearing effects. No evidence of uneven impression was seen on the back of the sheet.

Ink distribution is ample for halftone or other printing by the use of the two form rollers, two distribution rollers and one connecting roller. These rollers are said to be special composition rollers. The ink distribution is so regulated that an even downward flow is insured for printing purposes, and surplus ink is automatically forced back to the ink fountain. This ink flow is said to be as much of an innovation as is the flexible printing plate.

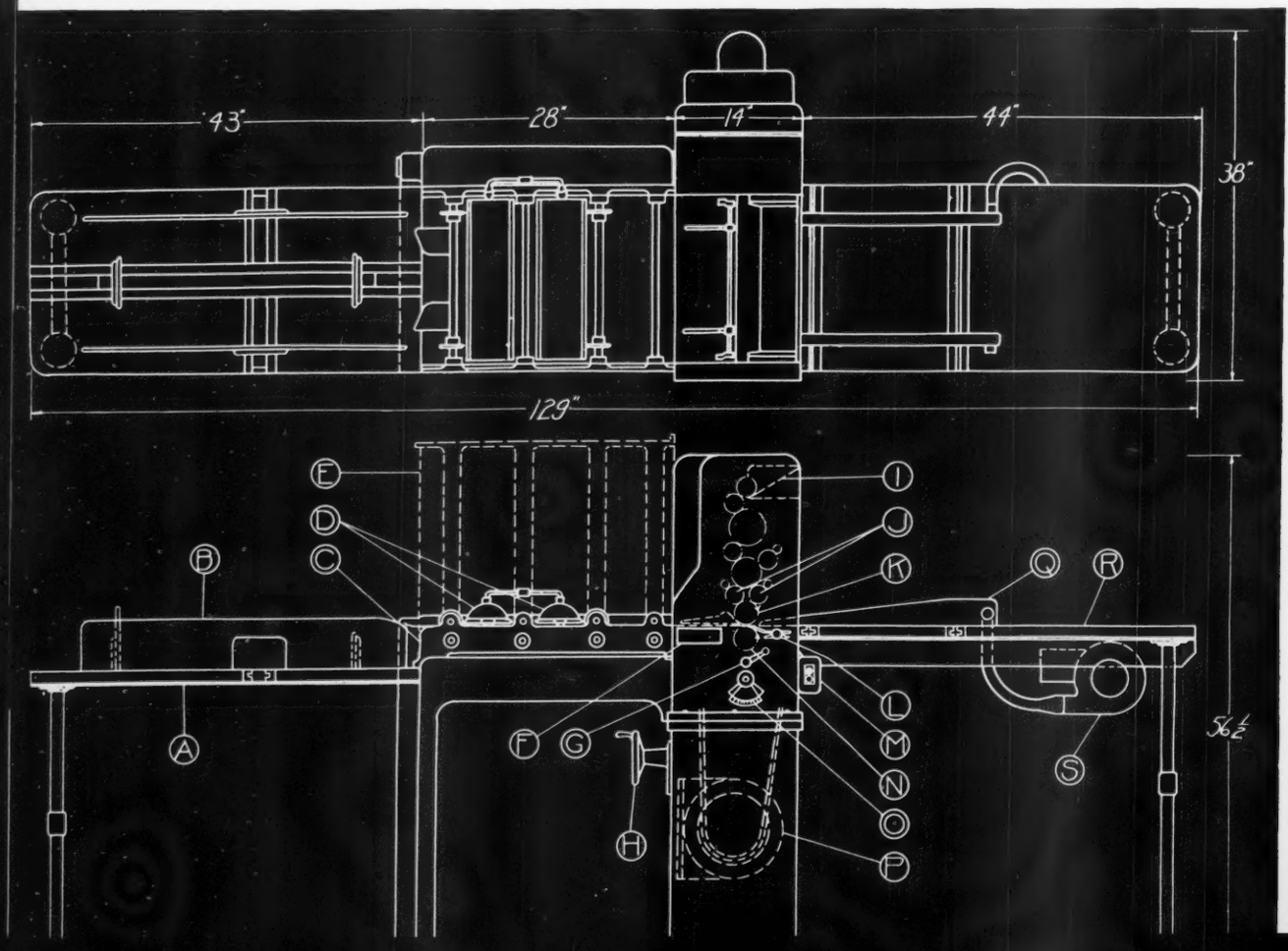
With no makeready to handle, and with parts easily removable and with the "delivery deck" swung up out of the way with one movement of the operator's hand, the change from the end of one job to the running of another consumes approximately fifteen minutes of time. The micrometer adjustment serves a purpose similar to makeready on other typographic presses because the thickness of the printing plate is known, as are also the thicknesses of the sheet of tympan and the sheet of book paper wrapped around the impression cylinder. These combined thicknesses plus the thickness of the paper stock to be printed, govern the setting of the micrometer to within 0.0005 in. of the required space between the printing plate and the impression roller.

"One of the big problems is to provide for the training of operators," Mr. Leech declared. He referred to one press that had gone into a pressroom where the operator was trained in handling other types of presses. "After a number of days experience he became familiar with the requirements and became accustomed to the micrometer arrangement to take the place of makeready."

Overall dimensions of the press are: Length, 10 ft. 9 in.; width, 3 ft., 2 in.; height 4 ft., 8½ in. Its weight is 1800 lbs., and it is powered with a 1½ h.p. motor, attached to which is the variable speed pulley.

Plan and side elevation diagrams of Wale Rotary Press. The component parts are indexed in the diagrams and are as follows:

A. Jogger table
B. Jogger
C. Delivery deck
D. Gas heaters
E. Delivery deck swung up
F. Counter
G. Throw off
H. Speed control
I. Ink fountain
J. Form rollers
K. Plate cylinder
L. Feed adjustment control
M. Push button starter
N. Impression cylinder
O. Micrometer impression adjustment
P. Motor
Q. Side paper guide
R. Feed table
S. Motor and air blower



Vindicator

(*Continued from Page 25*)

All wires for carrying electricity to the composing machines are carried in a trough conduit mounted above the machines. These include the wire circuits for the metal pots, motors, machine light and machinist's signal lamp.

Three Ludlow machines with liberal selection of matrix faces are employed extensively for various kinds of composition.

Two Monotype casters and two Elrod casters, located in Chief Machinist Tommy Carter's machine room, provide strip material in generous quantity.

Five Miller saw-trimmers, a Rouse band-saw, an American and a Rouse mitering machine represent the metal-working equipment.

A Vandercook power page proof press stands adjacent to the ad alley.

A Stahi Power-Lift Form File is used for storage of page forms. Space has been reserved for another installation at a later date.

Machinist Tommy Carter's machine room has been provided with two steel work benches with maple tops, a Rogers knife grinding machine and a Delta power bench grinder, besides storage cabinets for matrices and spare machine parts.

Stereotype Department

W. H. Measmer is supervising the stereotype department in which are used two Hoe Monarch mat rollers located between the composing room and the stereotype department.

A Stahi mat former, two Form-O-Scorch Machines and a Speed Flat Scorcher are used for page plates and job work.

A new 10-ton Kemp immersion burner metal pot and three Wood Pony Autoplate machines turn out curved plates for all editions. Space and the necessary fittings have been provided for a fourth Pony Autoplate machine.

A 2-ton flat-casting pot and a job pot, both fired by Kemp Immersion Burners, supplement the large pot mentioned above.

A Goss casting box for shell casts and a Hoe casting box are used for all flat-casting purposes.

Flat plate finishing equipment consists of one each Goss and Hoe combination saw and trimmer, Goss jig-saw, Crescent band-saw, a Hoe Precision shaving machine, two Goss curved routers with V-belt drive and two flat routers.

One of the flat routing machines is equipped with an Onsrud Air-Head motor, operating at 24,000 r.p.m. under 80 lbs. air pressure.

Novel Temporary Mat Storage

A novel temporary mat storage system has been devised for the stereotype department. Two steel lockers each having double doors, are fitted with steel ball-bearing conveyor rollers. Two cases of mats (one on top of the other) are placed on the rollers in each cabinet. The idea is that as each day's supply of mats is needed this device makes it possible for one man to pull forward the mat cases from the cabinet by himself without assistance to make the top case accessible. The mat cases are as easily rolled back into the lockers. When it is considered that each case weighs approximately 500 pounds, the efficiency of the device will be apparent. The lockers provide a storage place for four cases of mats in a practically air-tight compartment out of the road of production traffic and since the mats are stored in the lockers, no foreign material can injure them.

A double plate drop extending from the stereotype department to the pressroom floor level and an automatic plate conveyor running alongside of the units, installed by the Cline Electric Manufacturing Company, deliver all curved plates to the presses at the rate of six plates per minute.

Tommy Carter. Chief Composing Room Machinist, Youngstown (O.) *Vindicator*, doesn't mind moving a plant of machines.

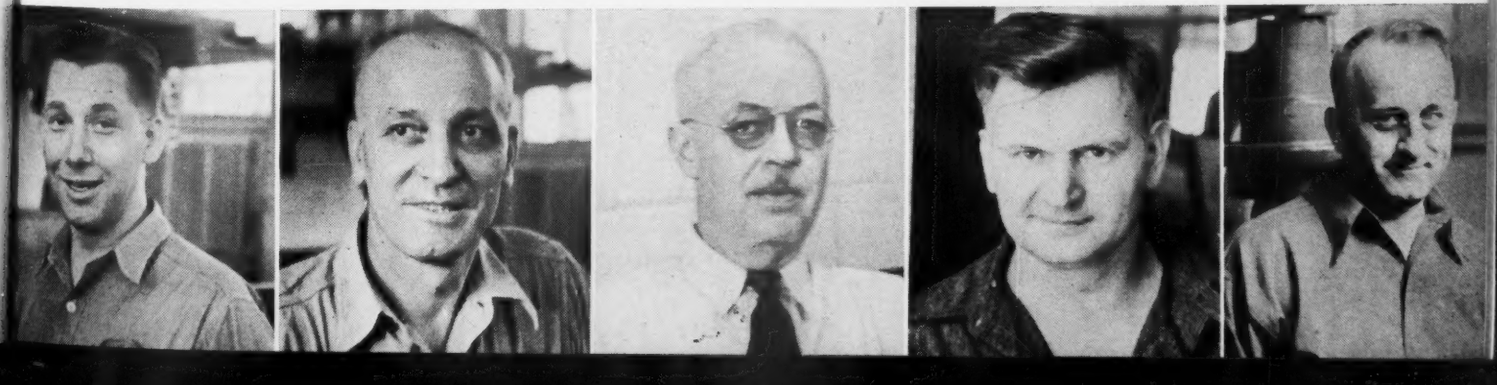
The Pressroom

Earl R. Weiskittel is in charge of the pressroom in which has been installed a new Goss 8-unit high-speed anti-friction press capable of being operated at 60,000 per hour. The press is equipped with two pairs of folders, balloon formers and angle bars. The press is also equipped with transfer rollers under the folders.

Three colors and black may be printed. There are reversible cylinders on four units. Two colors and black may be run on two units of the press. Four units are supplied with divided fountains. Eight Goss

Youngstown (O.) *Vindicator* Mechanical Executive Staff Clothed for the Emergency That Didn't Happen After Moving Into New Plant.

LESLIE GRINER Mechanical Superintendent	A. C. CHAGNOT Chief Engineer	ROBT. McK. FISHER Composing Room Superintendent	W. H. MEASMER Stereotype Foreman	EARL R. WESIKITTEL Composing Room Foreman



portable ink fountains form part of the r.o.p. color printing equipment.

Goodrich rubber rollers are used on the new press. Vulcan non-felt top and Vulcan cork underpacking are used.

On the new press a tachometer indicates the rate of printed copies per hour at which the press is being operated. Impression may be regulated on each unit by an impression indicator.

CLINE PRESS EQUIPMENT

The press is equipped with Cline individual motor drive and control system and Cline reels and tensions. On the *Vindicator* installation, the tension equipment is supplied with bronze straps in place of leather as formerly used. Tension is controlled from the press-room floor instead of the reel room.

The press units are well lighted for night operation between units and inside the arch of each unit.

A Goss octuple color press, at present located in the old *Vindicator* plant, to be used for printing comics, will be moved to the new plant, space for which has been provided. The press will be thoroughly reconditioned by the Goss Printing Press Company. It will be provided with Cline automatic pasters, new motors and electrical equipment.

IDEAL AUGMENTS STAFF

Dan J. Casey Jr., George Stiteler, Harold Mooy and Ralph Dickson have been added to the sales staff of the Ideal Roller & Manufacturing Company. Mr. Casey will operate from the Long Island office, Mr. Stiteler from Philadelphia and Harold Mooy from Chicago. Mr. Dickson, who was formerly plant superintendent at Chicago, will have charge of the Pacific coast sales branch at San Francisco.

FARRAR LEAVES ATF

Gilbert P. Farrar, nationally-known type expert, announces that he has resigned from the part-time position as lecturer and typographic counselor for American Type Founders Sales Corporation. Mr. Farrar will continue to act as general typographic counselor as he has for many years, but he will specialize on the designing of modern "air-conditioned" newspapers. Mr. Farrar has designed many well-known magazines and newspapers, including the Los Angeles Times which won the 1937 Ayer Award for Excellence in Newspaper Typography.

MACKEY SAILS FOR EUROPE

Joseph T. Mackey, president of the Mergenthaler Linotype Company, sailed for Europe aboard the S. S. Queen Mary July 7. Mr. Mackey will attend business meetings of associated companies abroad, and will study general business conditions in England and on the continent.

IPI VICE PRESIDENTS

James Beckett, Chicago; Frank W. Cray, New York City; Robert Kuhn, Cincinnati and T. A. Ryan, New York, are the newly-elected vice presidents of the International Printing Ink Corporation, in addition to the officers already announced. Directors of IPI are Bromwell Ault, A. Wallace Chauncey, E. W. Pittman, John W. Power, H. A. Smith, R. W. Smith, and H. B. Woodman.

POLO INJURY FATAL

Howell H. Howard, Treasurer of The Aetna Paper Company, Dayton, Ohio, was critically injured July 8 when his pony fell during a polo game at the Meadow Brook Hunt Club in West Brook, Long Island. Mr. Howard never regained consciousness after the accident and died at the Nassau Hospital Friday afternoon, July 9th.

Southern Conference

By STAFF WRITER

Newspaper mechanical executives from 12 states to meet in Birmingham.

THE initial meeting of the Southern Newspaper Mechanical Conference will be held in Birmingham, Ala., on Monday and Tuesday, September 20 and 21. The territory covered by the first conference consists of the twelve states in the Southern Newspaper Publishers Association territory besides Oklahoma and Texas, although it was decided by the committee on arrangements to invite mechanical executives from all newspapers wherever located.

It is made plain the new southern conference will not interfere in any way with the long-established national mechanical conference of the American Newspaper Publishers Association, nor will it conflict with the Oklahoma-Texas Mechanical Conference which has been in existence for several years.

Frederick K. Forstall, Mechanical Superintendent of the New Orleans *Times-Picayune*, has been designated as chairman to preside during the first conference. A plan of rotation of committee membership will be put into effect through which a new chairman will be provided each year.

The conference idea was approved at the annual convention of the Southern Newspaper Publishers Association in May. Present at that meeting were J. E. Chappell, Publisher, Birmingham *News* and *Age-Herald* and Chairman of the S.N.P.A. Board and Secretary-Manager Cranston Williams.

Representatives of equipment manufacturers will be invited and exhibits will be permitted.

The program will be made up from suggestions sent in by mechanical executives. Four sessions are planned for the two days during which the conference will be held.

The committee on arrangements is composed of Frederick K. Forstall, New Orleans *Times-Picayune;* W. A. Carns, Birmingham *News* and *Age-Herald;* George W. Holloway, Nashville (Tenn.) *Banner;* I. J. Gardner, Chattanooga (Tenn.) *Times;* John P. White, Charlotte (N. C.) *Observer;* W. B. Sandlin, Miami *Herald* and T. C. McLemore, Mobile (Ala.) *Press-Register.*

MILLER COMPANY EMPLOYEES TAKE A WELL-EARNED REST

It isn't very often that a manufacturer requests visitors not to call, but executives of The Miller Printing Machinery Company of Pittsburgh are asking all visitors to postpone any calls they are planning to make to the Miller plant between Saturday, July 31, and Monday, August 9. For the last eighteen months the company has been operating three shifts in twenty-four hours, six days a week. Now, in spite of an increasing backlog of orders, officials of the company report they have decided to give everyone in the plant, from the office boy to the president, a two-weeks' vacation with pay. During this time the entire plant will be closed.

RAILWAY EXPRESS GAINS

K. N. Merritt, General Sales Manager of the Railway Express Agency said recently "figures now available show that the Agency carried 11,579,683 shipments for the month of May, an increase of 635,282 or 5.81% over the corresponding period in 1936.

"Although June figures have not as yet been tabulated, preliminary data indicate a satisfactory rise over June of 1936, thus making last month the 42nd consecutive month that showed an increase since the Railway Express started its 'More Business Plan' back in 1933."

WITH LINOTYPE FACES

For every theme, every illustration, every layout there are Linotype faces to harmonize—to make printed matter more effective. An almost limitless selection is available when Linotype composition is chosen. And such choice automatically adds slug-set economy to typographical excellence.

Estienne	Benedictine Book	*Metromedium Italic*
Metrothin	Janson	**Bodoni Bold**
Caslon Old Face	Scotch	**Memphis Bold**
Memphis Light	Bookman	**Erbar Bold Condensed**
Electra	Narciss	**Metroblack**
Caslon 137	Bodoni	***Metroblack Italic***
Granjon	Caslon No. 3	**Gothic No. 13**
Baskerville	Metrolite	**Vulcan Bold**
Legibility Group	Erbar Light Condensed	**Poster Bodoni**
Bodoni Book	Cloister Bold	**Memphis Ex. Bold**
Cloister	Memphis Medium	**Gothic No. 16**
Garamond No. 3	Metromedium	**Pabst Extra Bold**

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TRADE LINOTYPE MARK

The Blemish of Slurs

By STAFF WRITER

Most common defects in printed matter caused by slurring—Slurs may be due to many causes enumerated in this article.

SINCE slurring ruins the appearance of halftone or process color printing, every possible effort is made to avoid it in such work, but the increasing demand for speed seems to have increased the number of slurs on all except the very highest grade of printing. Since there are a number of causes for slurring, it may prove interesting to a great many mechanical executives to make a breakdown of the subject because of its almost universal prevalence.

Form, Chase and Lockup

In the first division may be classed slurs caused by form, chase and lockup. Imperfect justification may be due to non-rectangular units in the form. Machine-cast matter may be out in length, breadth and thickness.

SLURS

Of the many annoyances in the average commercial printing plant pressroom, slurring may be the cause of much loss of production time. While the pressman may be familiar with a number of the causes according to his experience in handling presses, yet there are times when the direct cause will be difficult to recognize. At such times the cause may not be recognized because all of them cannot be "kept in your head." The best that can be done in an article of this kind is to list the possible sources—it will be for you to find the one causing your trouble.

Cuts vary in the same dimensions and the wood base may be warped. Wood furniture is very easily changed in dimensions by atmospheric changes. Wood furniture remains popular because it is light in weight. It has been suggested that research may produce a coating for wood furniture which will be impervious to atmospheric changes and not affected by the detergents in common use in the print shop. The printer waited a long while for the new and best blue, Syan B, (the second Syan) and perhaps a better wood furniture is just around the corner. While the present grade of wood must be used, it will be found helpful to flank rules with extra high slugs and place metal furniture against all sides of the form and page units of large forms. Wood bases may be replaced or slots sawed in them before planing for type-high plate. With justification of the form attended to, there remain the causes consisting of the chase being out of true and too tight locking of quoins and bed clamps as causes of a springy form—all prolific causes of slur.

Press Mechanism

Loose, springing plates and too much or inaccurate underlay and interlay cause slurring, also inaccurately set impression wheels under the bed. Sometimes when the cylinder has been pulled down on the bed bearers the operator neglects to adjust the register rack and the intermediate gear. An intermediate gear which is set too tightly and a loose or improperly adjusted register rack will cause slurring.

A press out of level, miscalculated air resistance, bed bearers too high, uneven from wear or with screw heads higher than the surface of the bearers, may cause the slur. A form set too far forward on the bed or too large for the press are among the other causes. Even improperly set rollers contribute, as slurring frequently is caused by the last roller lacking sufficient contact with the vibrator.

Passing to the cylinder, we find badly worn boxes a very common cause which is sometimes corrected by pulling the cylinder down harder on the bearers.

Makeready Faults

An overpacked cylinder, trying to print thick paper and thin cards without diminishing the thickness of the packing, makeready too high above bearers, inaccurate makeready with strongly contrasting high and low spots, too much paste in spots causing lumps, overlays not flat at gripper edge and overlays not neatly cut and attached cause many a slur, as do also a loose or wavy drawsheet and soft packing.

Feed tongues positioned too high above drawsheet and grippers set too close to the tongues and the shooflies, grippers not set alike, paper so wavy that the grippers increase the buckle, all are causes of slur found in the feeding division.

Failure to set bands and brush with sufficient pressure and somewhat tighter in the center than on the ends is a common cause. Among other causes not quite so common are dirt, powdered matter (like rosin and oil) on the bearers and finally, hard rollers.

Heavy paper, thin and heavy cards with scant margins tend to wipe the form and cause a slur. A tack with head just low enough to keep the roller from inking it will hold the rear end of the sheet out of contact with the form.

Cylinder lifting action out of time, causing the cylinder to rise too soon, sometimes causes slur as do too hard form rollers. It will be evident from the list printed here that the pressman must be alert in order to avoid blemishes in his work when there are so many possible causes for slurring.

A break-down for location of slurs on the sheet shows that they are most common on the edges of pages parallel to the cylinder, the well known gutters caused by an overpacked cylinder due to slovenly makeready or failure to bring the cylinder down harder on the bearers when its journals and boxes are badly worn.

It is a reasonable operation for erectors at the time of installing a new cylinder printing machine not to set the cylinder too low so that parts may have a chance to wear in. After this period is past, the cylinder should be pulled down hard enough on the bed bearers to print a capacity form without light showing between the bearers.

The gutter type of slur generally is worst at the rear edge of the sheet as the effect is cumulative.

Slurring at the gripper edge is sometimes overcome by slightly raising the end grippers.

(*Continued on Page 67*)

SOARING COSTS VERSUS *miller* EFFICIENCY

AS TAXES, labor, materials, supplies, equipment, rentals and other costs go steadily higher; operating costs of Miller Automatics remain proportionately lower—lower because of these definite cost-saving advantages:

Up to 25% extra properly printed sheets per hour.

Over 6% non-productive time saved by Miller Automatic Oiling.

Up to 50% saving in floor space as a result of modern compact design.

WIDE PRODUCTION RANGE—Miller handles tissue to 20 point board (often 30 point) with equal ease. Ample distribution, readily controlled for finest line work or heavy solids. Perfect register with rigid impression at all speeds. Quick get-away for the shortest runs.

LOWER MAINTENANCE—All-steel bed motion instead of usual cast iron. Automatic oiling assuring adequate lubrication. Liberal use of Nitralloy and other costly alloys. Precision roller bearings and bronze bushings. Maximum service with minimum wear.

TIME SAVED—Slow-down delivery accurately aligns sheets on pile, no re-jogging; swing-away feeder and easily lifted feedboard permit quick form changes and makeready; inkers exposed by one turn of handle; drop-blade fountain for speedy cleaning.

These and many other Miller advantages are described in the NEW Miller Catalog. Copy to any responsible firm on request.

MILLER PRINTING MACHINERY CO.

PITTSBURGH, PENNSYLVANIA

Branch Offices: BOSTON, NEW YORK, PHILADELPHIA, CHICAGO and SAN FRANCISCO. *Canadian Company:* MILLER PRINTING MACHINERY OF CANADA, LTD., Toronto and Montreal. *Agents:* CALIFORNIA PRINTERS SUPPLY COMPANY, Los Angeles, California; LANCE COMPANY PRINTER'S SUPPLIES, Dallas, Texas; J. H. SCHROETER & BRO., INC., Atlanta, Georgia.

miller

MILLER AUTOMATICS

Simplex • Speed, 4500 per hour. Sheet size 20" by 26". Faster than presses half its sheet size. Feeder holds up to 10,000 sheets.

Major • Speed, 3600 per hour. Sheet size 27" by 41". Bleeds a 25" by 38" form in chase. 27½" by 41" maximum form on bed.

Two-Color • Speed, 3000 per hour (6000 impressions). Faster, more versatile, than other *one*-color presses of similar size.

STANDARD ON ALL MILLER AUTOMATICS

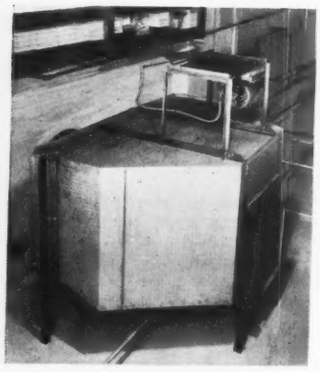
Automatic Oiling. Positive 100% air-controlled feeder. Slow-down delivery. Unit-construction; feeder, press and delivery designed and built as one integral unit. Patented, 2 to 1, all-steel bed motion, no air-plungers, minimum vibration, effortless speed.

Blower-Filter Unit

By STAFF WRITER

System filters air from and returns it to pressroom every four minutes.

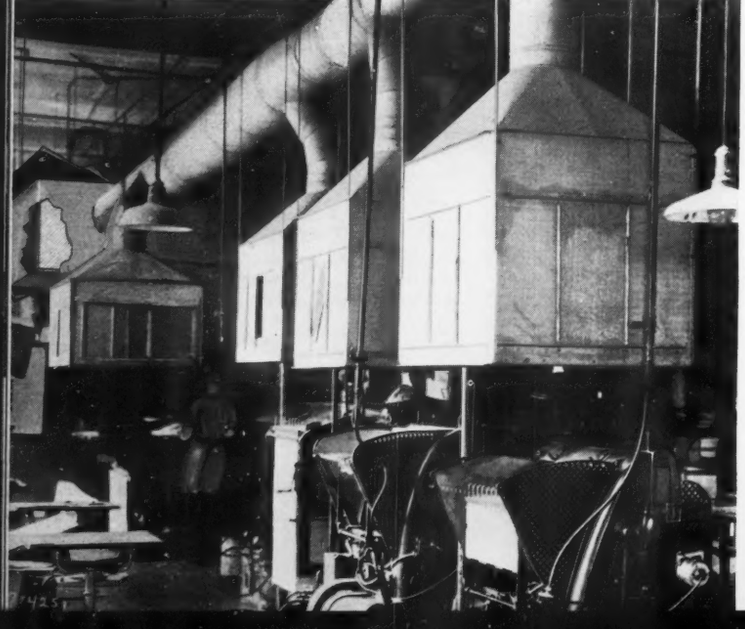
A SPECIALLY designed blower-filter unit has been installed in the pressroom of Benham & Munday, Indianapolis printers. By means of the system the residue particles arising from the sheets as they are sprayed by guns to prevent freshly printed matter from offsetting and which would otherwise float about the pressroom, are sucked up through the hoods, one of which is installed immediately above the delivery on each press. Although the materials used in the spray fluid are known to be harmless, complaints were received from employees about their comfort and health.



Contained within this cabinet suspended from the ceiling in the printing plant of Benham & Munday, Indianapolis printers, is a blower fan and three Air-Maze Filter units. The 1 h.p. motor operates the fan.

The problem of removing the mist from the air could not be solved in the ordinary way. Exhausting the surplus floating material to the outside was not feasible because the constant replacement of air would be disastrous to a close control of humidity in the pressroom and would increase considerably the cost of winter heat. A temperature of 80 deg. F. is maintained in the Benham & Munday plant during the winter season.

View of section of pressroom in plant of Benham & Munday, Indianapolis. Residue from spray gun fluid is ducted through a hood over each press by a blower fan and is forced through a bank of three Air-Maze Filters mounted in the blower cabinet shown at upper left in this illustration. After passing through the filters, the clean air is returned directly to the pressroom. Besides freeing the pressroom of other floating particles, the air is changed completely in the pressroom every four minutes.



Through a specially designed blower-filter unit and system of ducting the surplus spray material is filtered out of the air by being forced through Air-Maze filters mounted in a blower cabinet in an adjacent stock room. The clean air is then returned to the pressroom. The size of the pressroom is 32 ft. by 64 ft. with 14 ft. ceiling and the blower is operated to accomplish a complete change of air every four minutes. After leaving the blower, air is returned through a doorway in the partition separating the stock and pressrooms. A standard 20 in. Hy-Duty Schwitzer-Cummins blower driven by a 1 h.p. motor was used.

The system was installed in the Benham & Munday plant by the Schwitzer-Cummins Company of Indianapolis and the Air-Maze Filter Corporation of Cleveland.

Three standard Air-Maze Filters were placed in one bank in the cabinet housing the blower fan. This cabinet is located near the ceiling in a stock room. It is suspended from the ceiling and takes up no working space. It is reported that the Air-Maze Filters have proved to be efficient in separating fine dust from the air stream and rid the pressroom of other floating matter detrimental to fine work.

Six filters were purchased—three for the operating bank and three for spares to save time when changing and cleaning. An inexpensive twin metal tank is used in which to souse the filters for cleaning and reoiling.

A benefit not taken into account as a primary purpose of the installation is the added comfort created for the workmen by keeping the air in constant circulation.

THAT IDEA—

the one you had explained to you when you last visited your mechanical executive friend in another city—didn't quite fit your needs. On the way home, it occurred to you that by altering the process and adapting it to your conditions, a production problem would be solved. *Printing* EQUIPMENT *Engineer* invites you to send a letter to the editor for the benefit of our readers who may have a similar problem. To avoid formality, just use the old pencil and scratch paper—we'll attend to the rest.

115th BIRTHDAY

The management of the Rahway (N. J.) *Record* observed its one hundred and fifteenth birthday anniversary on Tuesday, July 13. Really, the one hundred and sixteenth year of publication was begun because Edgar Smith established *The Bridge Town Museum* (the *Record's* predecessor) on July 13, 1822. A halftone reproduction of the New Jersey *Advocate* is printed in the anniversary issue of the *Record*. The *Advocate* was also a predecessor of the present-day *Record*. J. R. Marple is publisher; Walter P. Marple, Business Manager and Howard C. Woodruff, Editor of the *Record*.

NEW PLANT FOR NEWS-JOURNAL

The building recently erected for the Wilmington (O.) *News-Journal* is constructed of brick and is two stories high. The building is well lighted and air-conditioned. The first floor is occupied by the business departments, the press and mailing rooms and a storage room for newsprint. The second floor is taken up by the news and editorial rooms, file room, library and the composing and stereotype departments. W. J. Galvin is publisher and Wayne W. Galvin is general manager of the *News-Journal*.

Consult the
P-DOUBLE-E INDEX
Use It Freely

CLAYBOURN

COMBINATION ROUGHING and SHAVING MACHINE

for BETTER PRINTING PLATES and LOWER COSTS

To help meet the present-day demand for better press-work in both magazine and newspaper printing, Cottrell offers the CLAYBOURN Combination Roughing and Shaving Machine. Here is a precision tool — built to meet exacting requirements—which not only does better work but at the same time reduces costs by combining two operations in one. Used for shaving electrotypes, stereotypes, base material, etc., it insures uniform plate thickness — accurate within plus or minus one-thousandth of an inch—and eliminates a great part of the hand finishing necessary when plates are shaved with ordinary equipment. It is particularly advantageous in newspaper and other printing plants for producing accurate metal base upon which to mount cuts for molding. A micrometer adjustment enables the operator to shave plates to any desired thickness—a cut as deep as one-eighth inch can be made in one operation —and the bed is quickly adjustable so that shell stereos, too, can be shaved with close accuracy. A folder describing this machine will be furnished on request.

C. B. Cottrell & Sons Co., Westerly, R. I.

New York: 25 East 26th Street • Chicago: 332 South Michigan Avenue
Claybourn Division: 3713 North Humboldt Avenue, Milwaukee, Wisconsin
Smyth-Horne, Ltd., 1-3, Baldwins Place, Gray's Inn Road, London, E. C. 1

COTTRELL

New Printing Equipment and Supplies

Air Turbine Router Head

Shown in the photograph is an F-3-B Turbine Motor Router, recently announced by the Onsrud Machine Works, Inc. The air turbine as shown in the illustration is mounted in a slide ready for mounting in the various types of engraving routers.

The F-3-B Turbine Motor Router operates at a speed of 24,000 r.p.m. without vibration. Manufacturer states

View of Onsrud F-3-B Turbine Motor Router which operates by means of compressed air.

the high operating speed produces a smooth cut with effortless feeding. As the air turbine is cooled by expanded exhaust air, it will operate continuously at less than room temperature. The air exhaust is directed downwardly toward the work to keep it free from chips. It may be instantly stopped by a push-button type brake which is shown in the illustration below the name plate. From 80 to 100 lbs. compressed air is required for the efficient operation of this tool.

For use in this new router head, the Onsrud Machine Works also announces a series of high-speed cutters with ¼ in. shank for working on zinc, copper, brass, wood, soft metal and electros.

P-Double-E File Nos. 2G31 and 2E18.

New Mercury Vapor Lamp Transformer

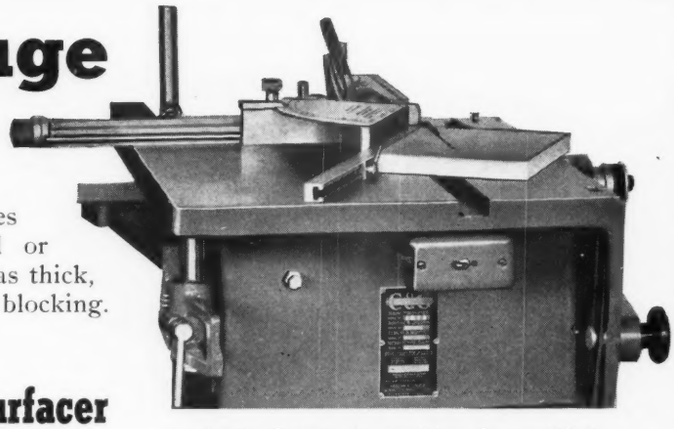
The Acme Electric & Mfg. Co. is now manufacturing a new high intensity mercury vapor lamp transformer. When used with the proper high intensity lamps the transformer provides lighting efficiency and fine seeing illumination. Acme ingineers developed special methods of manufacture to produce this mercury vapor lighting transformer. As an example, manufacturer states, special core manufacturing methods were created which include the use of extremely thin laminations of high silicon steel. This, plus the use of oversize wire for all coils helped to insure cool operation of the functioning units. In addition, coils are precision wound, and are of the armored insulation type, double impregnated. After more than four years of experimental work the proportion of the core of the Acme transformer was developed to scientific proportions.

Another feature of the transformer is its universal mounting means. Its removable mounting legs make it suitable for either wall, ceiling or pendant mounting.

C&G Angle Gauge

For exclusive use on No. 3 or No. 3-A C&G Saw Trimmers

Has a working range from 0 to 85 degrees and handles any desired angle in metal or wood. A rule clamp holds rules to three picas thick, and is easily removed for wood or metal blocking.



Angle Gauge in position for cutting wood or metal blocking

C&G Slug Resurfacer

Will resurface Linotype, Intertype, Ludlow and All-Purpose Linotype display slugs in all sizes and measures. Slugs to be resurfaced are automatically lubricated as they pass forward for facing. When returned to starting position the oiler does not touch the face, and the cutter removes any oil that has accumulated, thus eliminating the need of cleaning before being used for printing. Workholder has sufficient clamping pressure to hold a slug of any body size or length in position for resurfacing.

Descriptive literature forwarded upon request.

MILWAUKEE SAW TRIMMER CORPORATION

612 EAST CLYBOURN STREET MILWAUKEE, WISCONSIN

They think We've *got* Something!

WHEN WE tell you that 156 American Newspaper Publishers are now using **Kemp Immersion Melting**, we err on the side of modesty . . . for in ever increasing numbers they are *re-ordering.*

Take that alert newspaper of the Golden West, the Denver Post for example:

Thumbing through the books we find that on August 24, 1934, they succumbed to Kemp blandishments to the extent of taking a chance on a Gas Immersion Heated Remelt Pot. The following January they ordered a flat cast pot. On October first of the next year they ordered an 8-ton stereotype pot. And February fourth of this year came order number four, *another* 8-ton Kemp stereo pot (illustrated above). They are now completely Kemp equipped for their stereotype, flat cast and remelt pots.

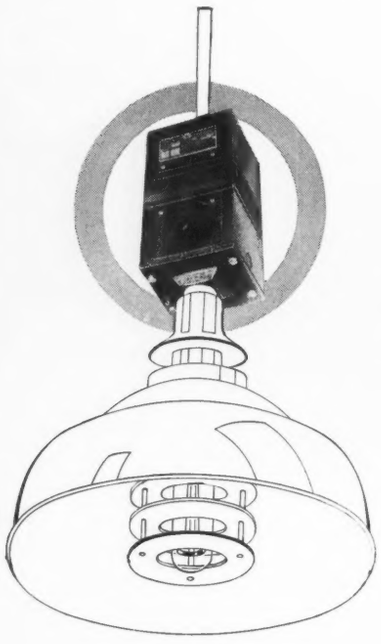
We are beginning to think they like **Kemp Immersion Melting** in Denver and get a kick out of saving money. What would you think? Kemp can save you 40 percent (or more) on your stereotyping fuel, too. We guarantee that in writing. How come? Write and ask the **C. M. Kemp Manufacturing Company, 405 East Oliver Street, Baltimore, Maryland.**

KEMP of BALTIMORE

A thread coupling is an integral part of the end plates and is ready for pendant mounting by removing the end plate cover.

Another feature is that the two positive contact universal terminal panels are each mounted in a large compartment with ample space for making connections. All connections to line or lamp are made at the terminal panels, no joints or taping being required. Connections may be made from either or both ends of transformer, for mercury vapor lamp or mazda or for combination use of both type lamps.

P-Double-E File No. 1GG



Acme mercury vapor lamp transformer when used with high intensity lamps is said to provide lighting efficiency and fine seeing illumination.

The Chronolog

The Chronolog announced by the National Acme Co., is an instrument which provides mechanically a printed record of productive and down time on any machine or operation. It also shows on this record causes and extent of idle time and a count of units produced. The

The Chronolog can be used as a counter or time clock.

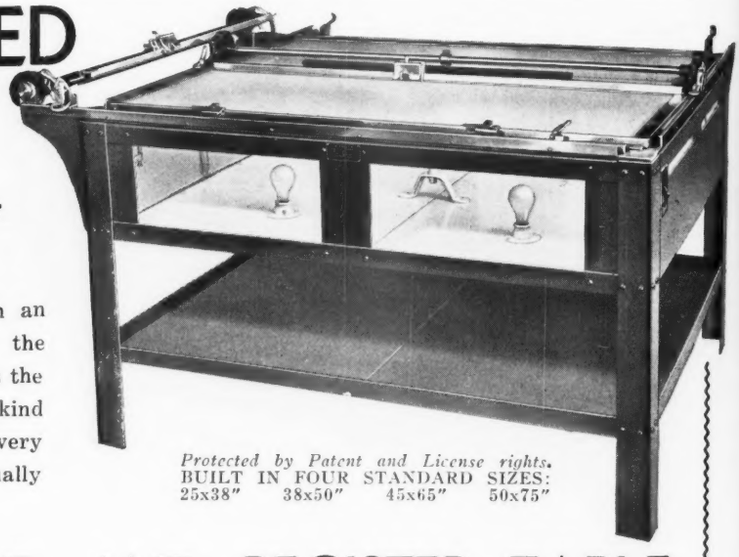
"Chronologs" may be so arranged as to provide other production information as desired. This printed record is the equivalent of a typewritten report which can be read and understood quickly by anyone.

This instrument is intended to coordinate the work

ACCURACY, SPEED and PROFITS

For Cylinder Printer, Lithographer Offset and Rotogravure Printer

Combining the geared method of line-up with an illuminating compartment for registering, the Craftsman Geared Line-up and Register Table is the most complete precision instrument of its kind known. It will produce hairline register on every close register job in a fraction of the time usually required with straight edge and pencil.



Protected by Patent and License rights.
BUILT IN FOUR STANDARD SIZES:
25x38" 38x50" 45x65" 50x75"

CRAFTSMAN LINE-UP AND REGISTER TABLE

The Illuminating Feature
of the Craftsman Table greatly increases the utility and scope of this precision instrument. Merely snap on lights, and register of color forms, back-ups, inserts, etc., is at once obtained. Surface is heavy translucent plate glass.

Book, Catalog, Periodical and Magazine Work
or jobs having a plurality of forms, can be lined up and registered by merely keying each form of the job to a strike sheet. One line-up for the entire job—uniform register throughout.

Send for Folder
There is so much of interest to tell, such big possibilities for profit and speed in the CRAFTSMAN Line-up and Register Table, that a New Descriptive Folder has been prepared. Send for a copy. You'll be glad to have it.

Practically Eliminates Unestimated Registering Time
Estimated profits are safeguarded and increased. The combined features of line-up and register provide a precision mechanical method of check-up standard for all departments.

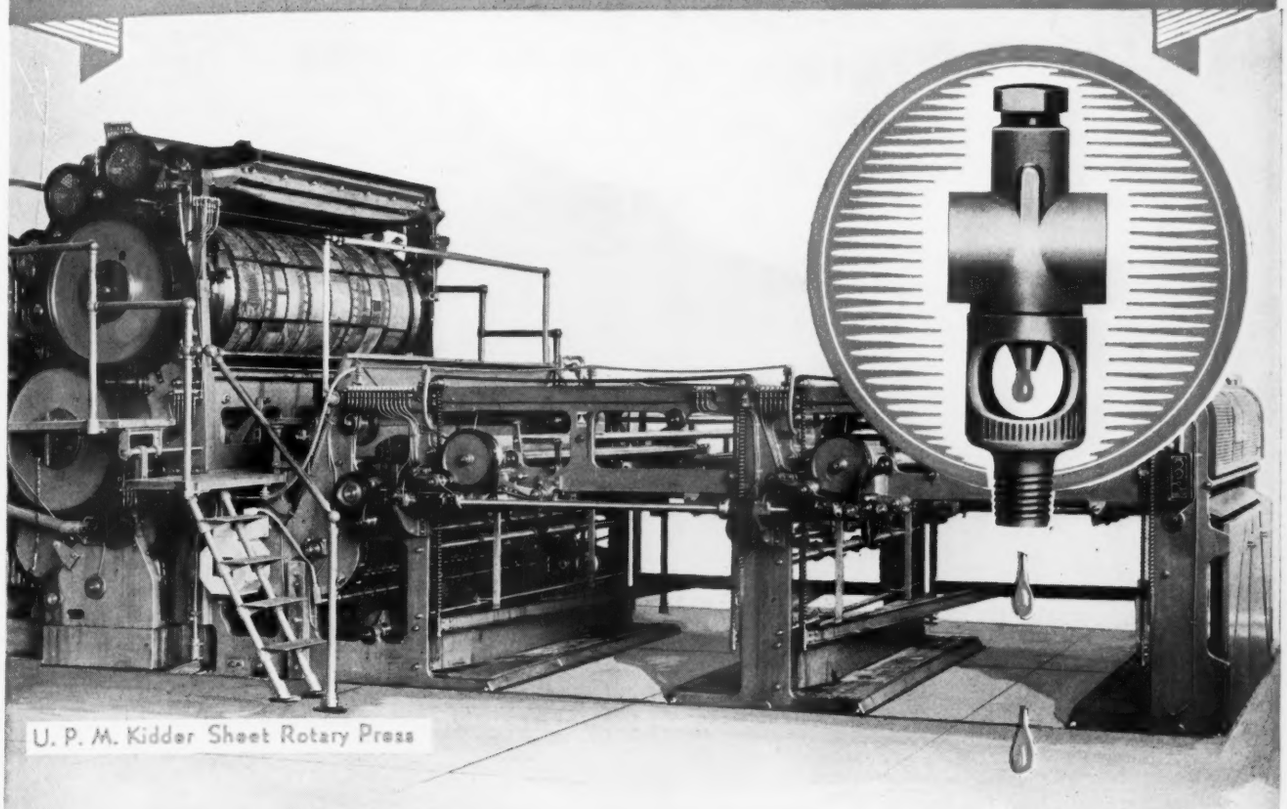
Imposition Speeded Up
Forms sent to press accurately positioned by keying forms to oiled copy of original strike sheet. Inaccuracies of position immediately noted and corrected before going to press.

CRAFTSMAN LINE-UP TABLE CORPORATION

Makers of the World's Leading Line-up Devices for Printers and Lithographers.

49-59 River Street, WALTHAM, MASS.

AUTOMATIC OIL LUBRICATION



U. P. M. Kidder Sheet Rotary Press

Pulsolator Automatic Oil Lubrication is used as standard equipment by leading printing press builders and is installed on existing plant equipment by cost-minded printers.

INCREASES PRODUCTIVE TIME

Production time once wasted to hand oil or grease, but now devoted to printing, pays for Pulsolator System in a few months.

ELIMINATES BEARING FAILURE

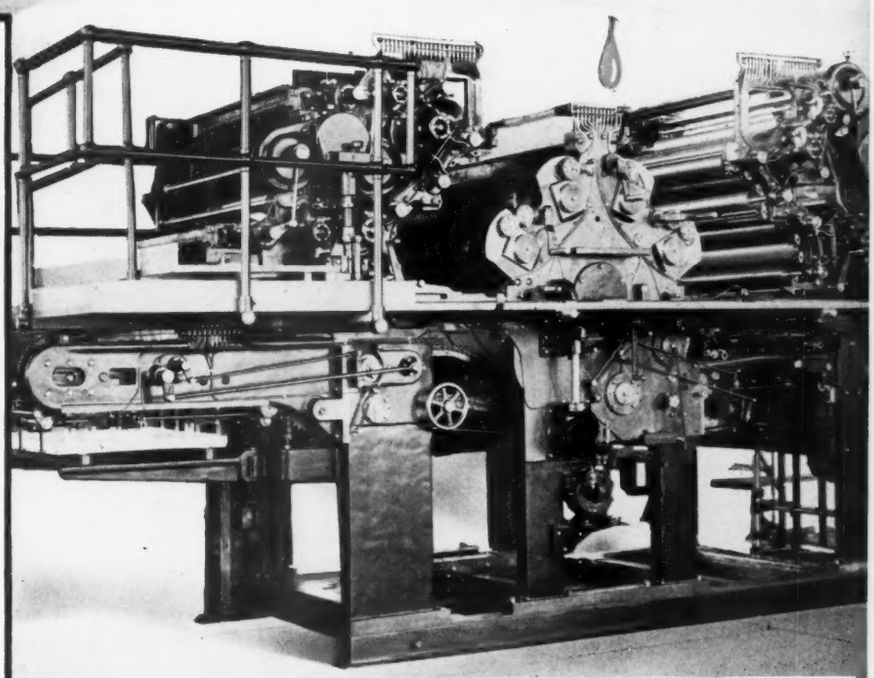
Year after year, maintaining their rates of feed, Pulsolator pressure responsive, "self-cleaning" feeders automatically assure every bearing positive lubrication.

CONTROLS MAINTENANCE COSTS

Pulsolator eliminates the cost of hand lubrication and places a mechanical control over oil consumption.

Write for Bulletin B-30

RIVETT LATHE & GRINDER INC.
BRIGHTON, BOSTON, MASS.

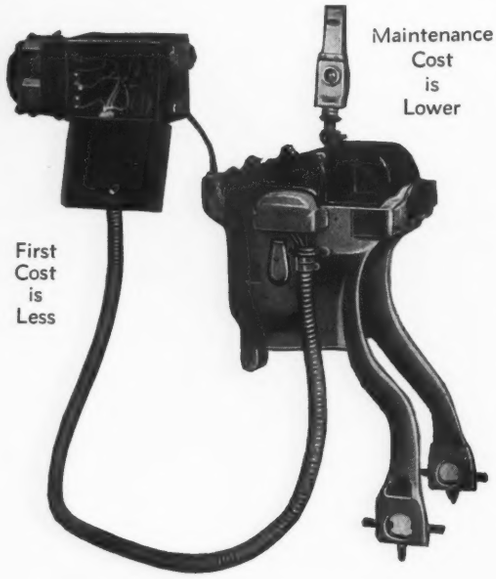


Cottrell 4-Color Rotary Sheet Feed Press

BLANCHARD PULSOLATOR

29 LUDWICK INDUCTION ELECTRIC POTS

ARE BEING INSTALLED BY THE TORONTO GLOBE MAIL



17 POTS RECENTLY INSTALLED BY ALBANY TIMES UNION

After exhaustive tests had been made under operating conditions, of two Ludwick Pots, the above mentioned order was given us. It was ascertained that electric consumption was at least as low as in other makes, and of course its manifest advantages included—

Elimination of Heating Elements,
Accessibility of Interior Coil
(SAVES MACHINE TIE-UP AND LABOR)
Replaceable Crucible Well

SEND FOR DESCRIPTIVE BOOKLET

Beware of cheap imitations of **Ace Belts.** They won't wear as well because they are not made as well.

PATRONIZE—TRADE ★ MARK—PARTS

LINOTYPE PARTS COMPANY

NEW YORK 203 Lafayette St.
KANSAS CITY 314 West 10th St.
Chicago — Los Angeles — Minneapolis

of the foreman, supervisor, inspector and plant manager. It makes their work easier, and by providing specific information as to production and the reasons for down time, it points out ways to reduce idle time.

The Model M "Chronolog" shown in the illustration may be applied to any machine, process or operation. When the operator begins work he turns on the "Chronolog." The exact minute of the start of the operation is then printed on a 4½ in. tape. The window at the upper right shows clock time. The larger window to the left registers the number of units produced. As soon as there is an interruption at work the operator turns the knob at the left to a symbol indicating the reason for the interruption. This is then registered on the "Chronolog" tape. When production is resumed the operator pushes a button on the front of the "Chronolog" and the time at which production was resumed is printed on the tape.

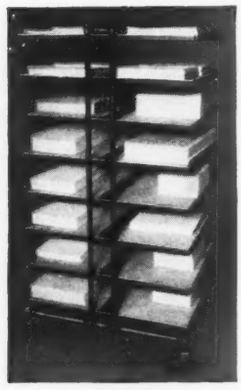
Every ten minutes the "Chronolog" prints the count of units produced and the time. Thus at the end of the day the printed record shows exactly how many minutes the machine was in operation, the number and extent of all interruptions and the reason for these interruptions.

This "Chronolog" can be used as a time clock at the machine if desired.

P-Double-E File No. 1H

Step-Saving Upright Rack

A Step-Saving Upright Rack for job printing presses has been designed by C. F. Anderson & Company. There are sixteen trays, eight on each side of the rack which fit the press delivery. When a tray has been filled it is placed in the rack. In this way, manufacturer states, hands do not touch the printed work, there is no sagging of the pile, smearing or offset.



This illustration shows the new Step-Saving Upright Rack for use with job printing presses.

The open design of the rack provides minimum weight and permits instant visibility. The compact design of the rack provides room for a large number of jobs in a small space. The rack may be wheeled through narrow aisles.

P-Double-E File No. 5G

11 in. by 14 in. "Turbinaire" Etching Machine

The new 11 in. by 14 in. "Turbinaire" Etcher combines in one compact outfit all modern features of design and construction to be found in the larger, full-sized machines. Small shops and country newspaper plants will find this new machine will etch quickly, smoothly and evenly all work within its capacity.

The bearings are large and heavy to insure smooth and economical operation. The same "Flexlock" mounted Drain Faucet is used as in the larger Turbinaire machines. The rotating seals function to prevent any

$ix $tar $imoleon $avers $urrounding ATF SAW!

$295★ F. O. B. Elizabeth, New Jersey

★This price includes ¾ h. p. motor
½ h. p. motor available at additional cost

For only $295, f.o.b. Elizabeth, New Jersey . . . you can put this modern composing room saw in your shop and profit by its time-saving and labor-saving features. The ATF SAW is roomy, speedy and safe. It is accurate and quiet. A dozen mechanical advantages allow you to get more work for less money.

1 *Spread . . .*

ELBOW ROOM ON THE WORK-TABLE . . . 20x28 inches, the largest in this class of saw. Plenty of room for work and attachments.

2 *Simple . . .*

ONLY ONE ADJUSTMENT . . . three trimmer knives are advanced or retarded by turning single adjusting nut, a time-saver.

3 *Sure . . .*

NO GUESSWORK . . . on trimmer knife grinding tool. The three knives are ground simultaneously to accurate, even length.

4 *Set . . .*

THE TABLE LOCKS AUTOMATICALLY . . . where you leave it. One revolution of the handle moves table six points. Calibrations easily read.

5 *Space . . .*

EXTRA SPACE . . . where you need it. A 20-inch utility box . . . a bin for tools and accessories . . . a tray for unfinished work.

6 *Sawdust?*

CHIPS? . . . special guard deflects sawdust and chips into waste hopper *inside* pedestal. Safer, cleaner . . . easy to empty.

Save! Save!

LOW INITIAL COST . . . low operating costs. Time and labor-saving features. Minimum amount of attention, reduced oiling time.

Special Attachments

Easily applied without screws, bolts or tools. Ask your ATF Salesman for details and prices on extra equipment for special work.

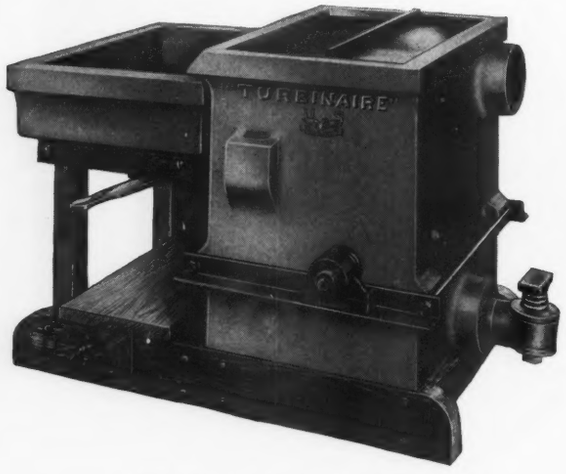
American Type Founders

200 ELMORA AVENUE, ELIZABETH, N. J. • *Branches and Dealers in Principal Cities*

Types used: Onyx, Kaufmann Bold, Ultra Bodoni, Bodoni Bold and Bodoni Bold Italic Printed on Kelly Presses

possibility of leakage. The speed is variable over a wide range and the machine is quite vibrationless in operation. Paddles can be changed quickly, when necessary. The construction throughout is rugged and substantial.

The machine is made for table or bench use. It is sold complete with Wash Tray and Driving Motor and



New Tubinaire Etching Machine

is wired, ready for immediate use. When used for zinc etching, the 11 in. by 14 in. "Turbinaire" must be connected to an independent ventilating motor. The overall dimensions are 37 in. long by 26½ in. wide by 24 in. high. The shipping weight is 530 lbs.

P-Double-E File No. 2E6.

C & G Slug Resurfacer

The Milwaukee Saw Trimmer Corporation announces the C & G Slug Resurfacer. It will handle Linotype, Intertype, Ludlow, and All-Purpose Linotype display

View of C & G new Slug Resurfacer; spindle is mounted in ball bearings and is driven by V-belt.

slugs in all sizes and measures and is furnished in either bench or pedestal model.

Slugs to be resurfaced are automatically lubricated as they pass to the right for facing. When returned to starting position the oiler does not touch the face. The cutter removes any oil that has accumulated, thus eliminating the need of cleaning the letter characters before being used for printing.

A workholder is provided with sufficient clamping pressure to hold a slug of any body size or length in

new & radically different

This Fall we are bringing out a new display type that is radically different. It is also in the best calligraphic tradition. We feel that it will bring fresh interest, new distinction to typography. The mailing list for the first specimen showing will be checked soon. Is your name on our preferred list?

THE BAUER TYPE FOUNDRY, INC • 235 E. 45TH ST., NEW YORK

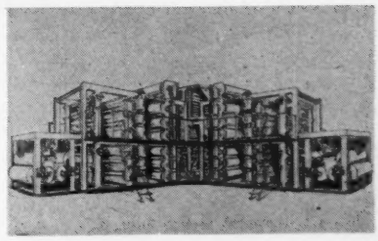
IT'S GOT TO BE GOOD...

...to pass Department 57

Selecting reliable sources of supply for materials which must be purchased is important enough, but it isn't sufficient for Hoe. Beneath the searching scrutiny of Department 57 must pass every finished element that's bought for the Hoe Super-Production Newspaper Press . . . and it's got to be good or it doesn't get by.

Every bearing purchased, for example, is checked on a gauge designed especially for that purpose. The bearing sleeves which the inspector is examining are checked inside and outside against master rings produced by one of America's finest tool manufacturers. Even the hardness of the steel is checked on the scleroscope tester before the delivery is accepted.

Department 57 is a tough place to pass. Keeping it at a high critical standard is reflected in the remarkable performance of the Hoe Super-Production Newspaper Press.



Dramatic example of Hoe engineering skill . . . and evidence of the extensive Hoe facilities for the construction of the unusual . . . 26 Unit Super-Production Multi-Color Newspaper Press . . . the world's largest . . . fastest . . . and most modern . . . produced for The Cleveland Plain Dealer.

HOE *Builds the Best*

R. HOE & CO., Inc. ***General Offices:*** **910 E. 138th St. (*at East River*) New York, N. Y.**

BOSTON • SAN FRANCISCO • CHICAGO • BIRMINGHAM • LONDON

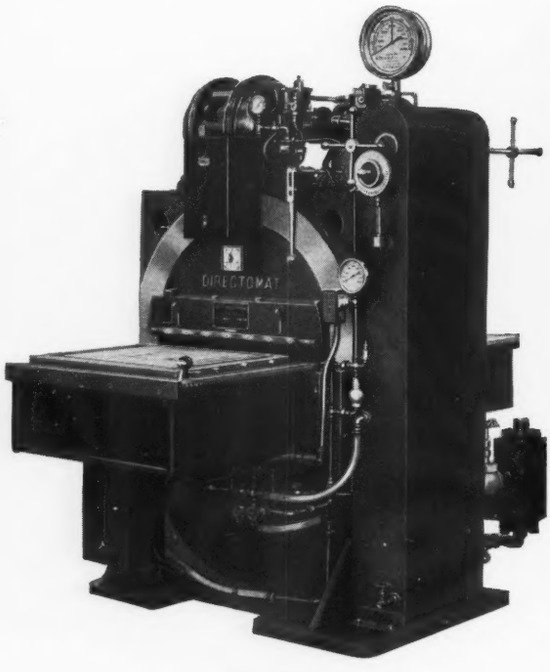
Direct Pressure--or Rolling?

WHERE IS THE LOGIC in moulding a few lines of type at one time on a Matrix Roller when an entire form can be moulded in one squeeze on a DIRECTOMAT Matrix Press so much faster?

Why put up with the inherent tendency of the Roller to push the type off its feet, crush weak slugs and electrotypes, break the kern of italic type, turn over rules, spread electrotypes and zincs, thicken the screen dots of half-tones, and cause hard edges, when the DIRECTOMAT eliminates every one of these troubles?

Why put up with the stretch and distortion of roller-moulded mats when the DIRECTOMAT completely eliminates stretch, thereby saving in many cases as much as ⅛ of an inch of newsprint or white margin per page?

Why reset standing want ads three times more often than necessary when the DIRECTOMAT saves about two-thirds of the cost of resetting of standing matter as compared with the roller method?



THE DIRECTOMAT

is suitable for dry mats (cold moulding) and wet or plastic mats (hot moulding).

Write now for full particulars or a demonstration in any of 27 cities.

Lake Erie Stereotype Equipment Corp.

Division of Lake Erie Engineering Corp.

Kenmore Sta. Buffalo, N. Y.

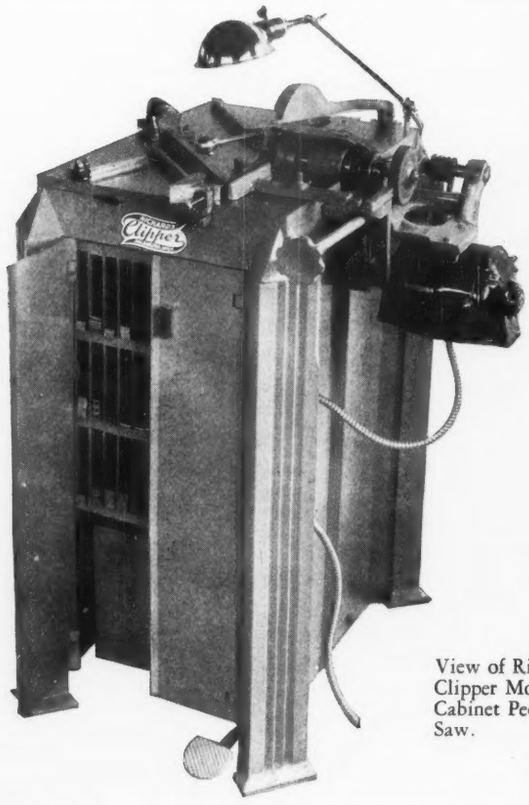
position for resurfacing. The guard covers all operating parts of machine and at the same time provides a convenient top; it swings back to a position so that all working parts are exposed for oiling and other purposes.

Large micrometer gauge and hand knob is graduated in one thousandth inch spaces, which provides accurate setting of slugs to be resurfaced. The spindle is mounted in ball bearings and is V-belt drive.

P-Double-E File No. 1JJ

"Clipper" Cabinet Pedestal Saw

The J. A. Richards Company announces the Richards' "Clipper" Cabinet Pedestal Saw, having "Fleetwing" Gliding Table moving on Hyatt roller and ball bearings. The spacious cabinet pedestal has twenty-seven divisions for holding fully a thousand pieces of assorted kinds of



View of Richards Clipper Model Cabinet Pedestal Saw.

full-length borders and spacing materials. The machine is operated by automatic foot switch so that the operator has the use of both hands. In the pedestal is a large dump cart on wheels.

The machine is equipped with dirt-proof speed gauges of the adjustable type that can be set for different degrees of mitering, right and left face-up mitering gauges, and "Bulldog" Safety Workholding Clamp. Mr. Richards states the new saw is as modern as the China Clipper. The tables are of nickel content semi-steel. Every part of the machine is provided with adjustments for taking up wear. It weighs ½ ton when packed for shipping.

Mr. Richards states a copy of the company's catalog containing descriptive matter about its line of 55 tools is free for the asking.

P-Double-E File No. 1Z.

Modernized Series Long-Tube Mercury Lamps

A modernized series of mercury lighting units of the long tube, Cooper-Hewitt type—improved in lighting efficiency, operating stability and appearance—are now being introduced by the General Electric Vapor Lamp

SAVE MONEY WITH VULCAN

GELASTIC ROLLERS

THE YEAR 'ROUND

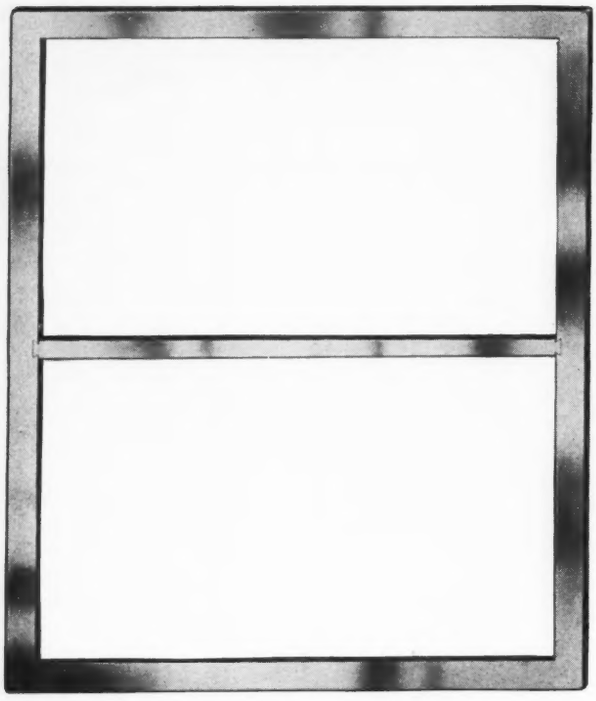
You can keep your presses running at full speed in the hottest weather... make your pressroom independent of weather conditions, as far as roller operation is concerned... by using Vulcan Gelastic Rollers. And you will get more and better service per dollar expended than from any other roller you have ever used. Gelastic Rollers are particularly well adapted to use on modern high-speed presses. They are unaffected by oils, driers, washes, etc., and do not swell, shrink, chip or crack. Write for folder.

VULCAN PROOFING COMPANY

Fifty-Eighth Street and First Avenue, Brooklyn, New York
608 South Dearborn Street, Chicago
SALES REPRESENTATIVES IN PRINCIPAL CITIES

STEEL CHASES

—EXCLUSIVELY SINCE 1893—



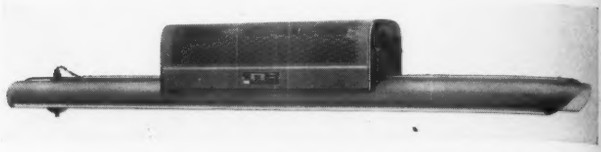
ELECTRIC WELDED
OF
SILVER BRIGHT STEEL

Chases made for all style presses. Regular sizes in stock. Special chases can be supplied promptly.

Sandblom Steel Chase Company
426 So. Clinton Street
Chicago, Illinois

Company. The new "50-in. light source" operates at 350 watts a.c. to supply the same light output which required 450 watts in previous models, its bare-lamp efficiency being 19.4 lumens per watt. The new "33-in. light source" operates at 280 watts in contrast to a previous 350, with an efficience of 17.1 lumens per watt.

As equipped with newly designed enameled reflectors, the complete lighting units have an overall efficiency of about 15 lumens per watt for mounting in a true horizontal position. Starting, and restarting after any current operation, is instantaneous. The entire unit has been redesigned to simplify maintenance and make cleaning easy. All tube connections are made with insulated screw terminals.



View of modernized long-tube Cooper-Hewitt Mercury Lighting Unit recently announced by General Electric Vapor Lamp Company.

In addition, a "skylight" unit combining the new long-tube light source with incandescent lamps is now offered for use where a close approach to daylight color values is required.

The higher light efficiency of the new lamps results from a new regulating circuit, equipped with special Pyranol capacitors. Power factor is 90% for the 50-in. light source and 85% for the 33-in. unit. Instant starting and added dependability have been obtained by substituting a new vacuum type interrupting switch in place of the "shifter" formerly used for starting the mercury arc within the tube.

P-Double-E File No. 1GG.

Gas Fired Stereotype Melting Furnaces

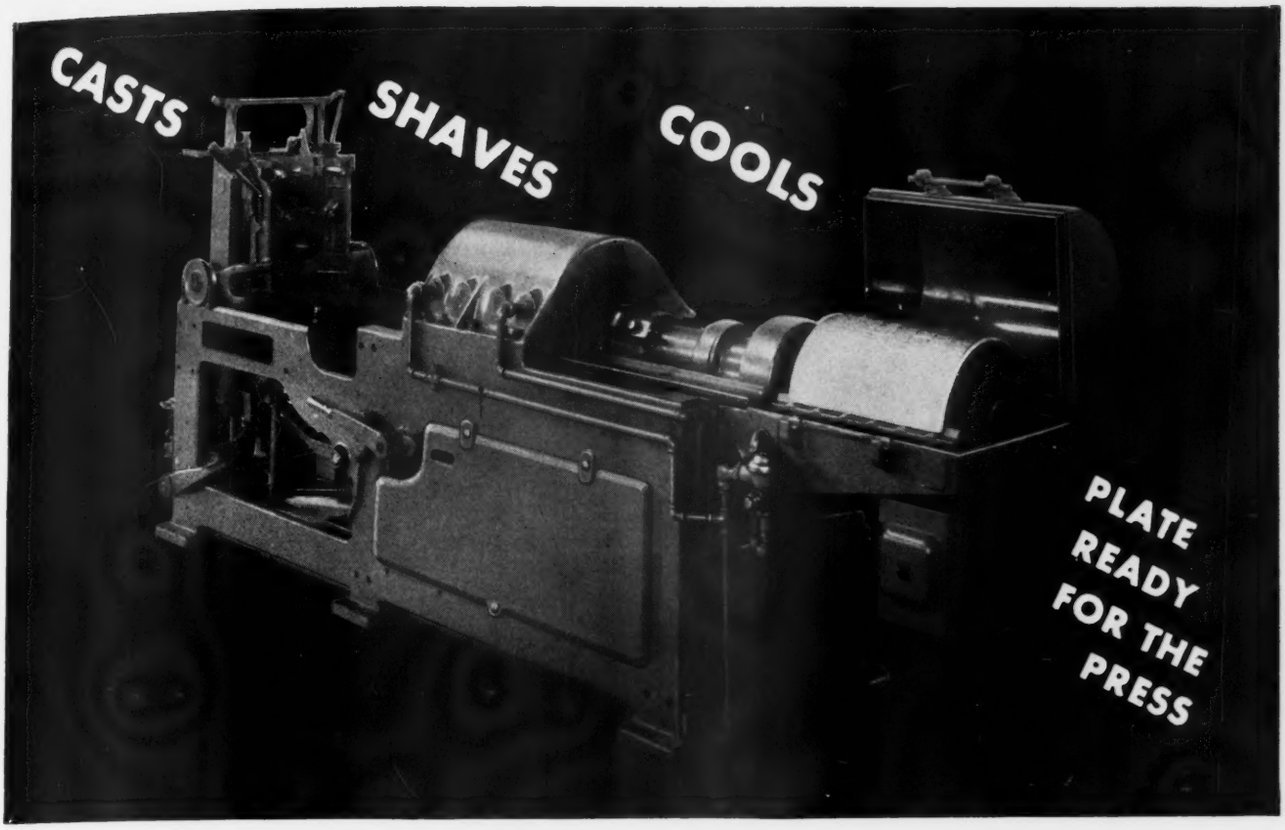
The Wood Newspaper Machinery Corporation announces the Dual Heated Gas Furnace for use with its Autoplate machine.

This furnace utilizes over ninety per cent of the available heat in the gas. The heating surfaces are so proportioned as to absorb the major portion of this heat. The furnace consists of a combination of immersion heating units and outside heating surfaces of the crucible. Gas burners fire into the immersion tubes where a large percentage of the heat is given off to the type metal. These flue gases then pass around the sides of the crucible in properly designed channels. These channels are laid out in such manner as to throw the hottest gas under the pump, thereby assuring fluid metal at all times.

The immersion coils (or units) are mounted on the flanges of the pot and are readily removable. The coils, as well as the crucible, are protected by high temperature insulation above the metal level. This construction procedure is followed to prevent the tube and the pot from oxidizing and eventually burning through at points where no metal is available as a heat absorbing medium.

The furnace is insulated on the sides and the bottom with 5 in. of efficient insulating material. This material is in block form and is not subject to packing.

The crucible is made of fire box steel, the end sections being fabricated by stamping out a single plate to the



Definite, Measurable Savings Effected by the New Extra-Heavy PONY AUTOPLATE

1. Saving in floor space. The Pony Autoplate takes up less than half the space required for handbox equipment.

2. Saving in amount of metal melted and cast . . . a saving of approximately 10% . . . due to lighter plates.

3. Saving in cost of recasting defective plates . . . due to the uniformity of mechanical operation and the elimination of handling strains.

4. Saving in cost of compressed air. No air needed.

5. EXTRA AGATE LINES. In many cases the Pony Autoplate can be designed to provide an increased page length of two and sometimes even four lines . . . from sixteen to thirty-two additional lines available per page.

• WRITE *for* NEW FOLDER •

WOOD NEWSPAPER MACHINERY CORPORATION

Plainfield, New Jersey — New York Office: 501 Fifth Avenue

Welcome TO CLEVELAND

Delegates and visitors to the 18th Annual Convention of the International Association of Printing House Craftsmen are cordially invited to visit, as our guests, the modern plant where Chandler & Price printing presses and paper cutters are built.

Our plant and general offices are located on Carnegie Avenue, one block south of Euclid Avenue, and are easily reached in a few minutes by street car or automobile from Convention Headquarters or from any point in downtown Cleveland.

Drop in on us at any time during working hours; you'll find the latch string always out.

THE CHANDLER & PRICE CO.

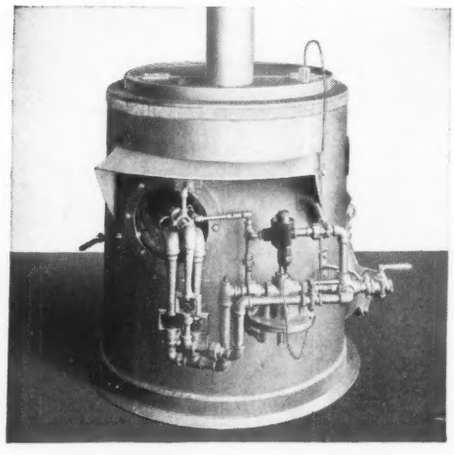
6000 Carnegie Ave. • Cleveland, Ohio

right shape in a special die. This stamping eliminates much welding and results in a section which has no sharp contours, nor does it require corner welds. All welds in the crucible proper are butt welds. Fins are welded to the crucible and serve the purpose of strengthening the structure, forming the channels through which the flue gases are directed, and act as heat-absorbing surfaces. The flange is welded directly to the crucible. A one-inch asbestos gasket between the flange and casing prevents excessive heat transfer from the former to the latter.

The immersion units are made of extra heavy seamless steel pipe. The transition sections are of electrical furnace steel. These transition sections bolt to the flange of the crucible and act as outlets for the gases from the immersion units to the outer heating channels.

The fins on the crucible are covered on sides and bottom with a thin heat-resisting stainless steel shell. This shell is air tight and forms the outer covering of the flue gas channels.

The combustion system used on this furnace is of the noiseless type. Gas at line pressure is supplied to a double burner. This burner consists of a small pilot burner within a large burner of the same type. The



View of Wood Immersion Heated Remelting Furnace.

pilot burner is operating continuously, and the heat supplied by this burner is somewhat less than that required to keep the furnace up to operating temperature.

The main burner comes on periodically under the influence of the temperature control. A definite draft is developed in the stack to circulate the combustion gases through immersion units and the labyrinth of heating channels. This is accomplished by means of a heat-resisting stainless steel fan, which is suitably insulated. The fan is operated by a 1½ h. p. motor and is supplied with an air-cooled bearing. This fan operates only when the main burners are operating.

An air-pressure control is provided to shut off the main burners should the fan fail to operate. The operating cycle is as follows: The temperature control, in calling for heat, closes the switch to the air-blower and to the gas valve circuit. The air-blower operates. The gas valves cannot open until a definite minus pressure is developed in the flue at which time the air pressure control closes, allowing the gas valves to open.

As a further safeguard, safety pilots are provided. These pilots are instantaneous in operation. They work on the principle that a gas flame or any ionized gas conducts electricity. By suitable amplification methods

this minute current is strengthened to operate a relay, this relay in turn operating the gas valve to that particular burner.

On the eight and ten-ton furnaces the safety pilots are so arranged that should any one burner go out only that control valve is closed. The remaining burners on the furnace will still operate in the normal manner. When a safety pilot closes the gas valve a signal light goes out, indicating the burner that is off, and a bell rings to notify the operator that he should inspect his equipment. When the furnace is up to temperature the gas valve closes immediately. The draft fan continues to rotate for an appreciable length of time because of its own momentum. This clears the flue passages of any combustion gases when the furnace is up to temperature. The pilots operate on the draft produced by the chimney or stack to which the furnace is connected. Should the stack draft be excessive a motor operated damper throttles the flue to an efficient operating point. This adjusts the draft both for the maximum and the minimum settings of burners; that is, for the pilot and also for the main burner. The draft fan requires a motor of only 1½ h.p. for a B.T.U. input of 1,350,000 heat units. Since operation of the pilots is accomplished without use of the blower, considerable electricity is saved during the long stand-by period when the pot is not up to an operating temperature. At this time only 32 watts per hour are consumed to hold the pilot valves open.

The flue temperature of the furnace when operating under a standard casting load will not exceed 735 deg. F. with a metal temperature of 610 deg. The furnace is rated to cast 480 plates per hour. This maximum is never reached in ordinary production because of the time needed for changing mats. Besides the safety equipment mentioned above this furnace is also supplied with a temperature limit control. Should the temperature control element fail to function, the limit control (which is set from 25 to 30 deg. higher) will operate, closing all the gas valves and ringing a bell notifying the operator that the temperature control requires servicing.

In addition, the Wood Newspaper Machinery Corporation also manufactures an immersion furnace. All of the heating surfaces are supplied in the form of heating coils which are immersed in the metal. The immersion furnace is used where the casting rate is not as great as in those installations where the dual heated furnace is required.

The Wood Newspaper Machinery Corporation also manufactures straight immersion furnaces, particularly adaptable for flat casting and remelting service. These straight immersion furnaces are made in sizes up to 4000 lbs. capacity.

A fourth furnace available in this series is the electrotype furnace. This is dual heated and also employs the noiseless combustion system. In this application an aspirator is used to suck out the products of combustion.

New Line of Job Inks

A new line of "Everyday" job inks, available not only in the customary cans but in tubes as well, is announced by The Intertional Printing Ink Corporation. According to IPI officials, marketing ink in tubes reduces waste by eliminating the possibility of "skinning"-losses by evaporation. They assert that ink in tubes is convenient to use, especially on small jobs and in smaller printing plants where big ink stocks are uneconomical.

Everyday inks come in eleven colors, whites, blacks, and compounds. Cans and tubes printed in colors to match the inks help make identification simple.

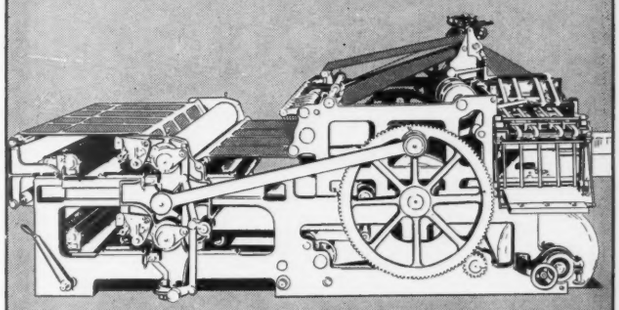
★ LEADERSHIP

in

Cleaner Printing

with

Flatbed Presses



In every comparative test of inks for flatbed printing, one fact stands out: Morrill News Black is rated *first* and *finest* when sharp, clear type and clean halftones—without smut, offset or tape marks—are the standards of the publisher and printer. Made especially for Flatbed Duplex, Goss-Comet, Cox-O-Type or similar flatbed presses—a trial of Morrill News Black will reveal new possibilities of quality reproduction. Demonstrate to your own satisfaction just what the modern Morrill News Black can do for your readers, your advertisers and your newspaper—for your next order, write, wire or telephone the nearest Morrill Branch, stating type of press you operate.

★ Again in 1936 Morrill led the world as the largest maker of newspaper black and color inks. More and more publishers and printers are turning to Morrill for swift, economical, quality performance.

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GEO. H. MORRILL CO.

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GENERAL PRINTING INK CORPORATION

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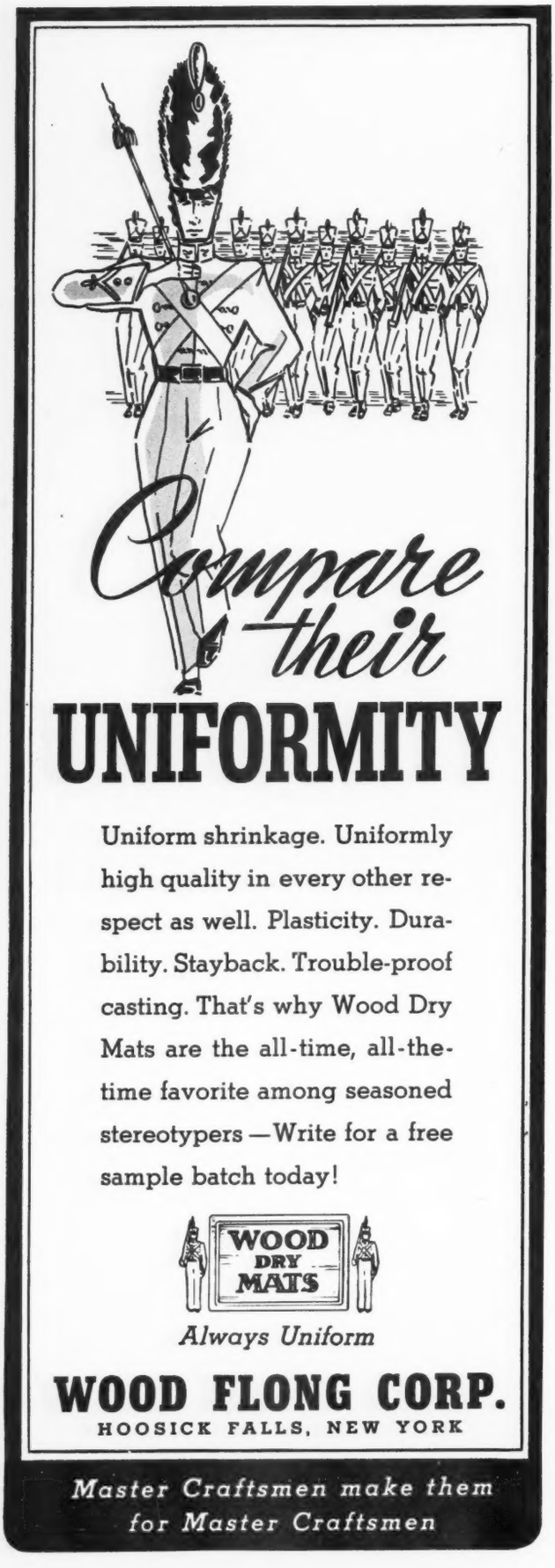
Compare their
UNIFORMITY
Uniform shrinkage. Uniformly high quality in every other respect as well. Plasticity. Durability. Stayback. Trouble-proof casting. That's why Wood Dry Mats are the all-time, all-the-time favorite among seasoned stereotypers—Write for a free sample batch today!
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Always Uniform
WOOD FLONG CORP.
HOOSICK FALLS, NEW YORK
Master Craftsmen make them for Master Craftsmen

Some Impressions

By STAFF WRITER

Charles Alpert who toured Europe relates some impressions gathered on the trip.

CHARLES ALPERT, of the Craftsmen Machinery Company, Boston, Mass., who left on April 4th for Europe, via the steamship *Normandie*, accompanied by Mrs. Alpert and daughter, returned to the United States July 2nd. He reports having done a good business everywhere he traveled, except in Switzerland, all of which consisted of new equipment purchases. He visited newspapers and commercial printing plants in London, Paris, several plants in Russia (especially newspaper printing plants), Warsaw, Vienna, Italy and Switzerland, Cairo and Palestine.

Mr. Alpert also states that American printing equipment is much in demand in Europe because of the superiority of its manufacture, and that the second-hand machinery available in London is obsolete and is in such condition it would be junked in the United States.

Manufacturers in the United States turn out a higher average grade, with respect to quality, than European manufacturers. This observation applies to both speed and quality. Russia is extremely backward in methods used in her printing plants.

Mr. Alpert related a very amusing incident which occurred in Russia. It seems that the sleeping compartments on trains are built to accommodate four persons. Passengers are assigned to compartments without regard to sex. On one occasion, he and his wife were in the same compartment with two Russians. When retiring time for the night came, the Russian gentlemen didn't want to withdraw from the compartment while Mrs. Alpert prepared for bed. Requests and coaxing upon the part of Mr. Alpert meant nothing—he had to eject them forcibly while she retired. The Russian gentlemen were highly offended at such foolishness.

When contrasted with American business customs, Mr. Alpert states it is extremely difficult to do business in England in view of the prevailing conservatism of the businessmen in that country. The owners of all establishments maintain "directors" (which means second in command) and all negotiations must be carried on through the director. Even in cases where Mr. Alpert wished to buy, the approach had to be made through a director. In one instance, he made two attempts to see one man from whom he had purchased materials for some time. In each instance, the English businessman's director told Mr. Alpert he was too busy. Having made a call in the morning, Mr. Alpert was requested to return at 2:00 that afternoon. Upon making the second call at the appointed time, he was asked to return the following morning. Mr. Alpert told the director that if Mr. *Blank* wanted to see him, he could come to his (Mr. Alpert's) hotel. Upon his return to the hotel, some anxious phone calls were made wanting Mr. Alpert to return to the place of business. According to custom, the businessman let him go without trying, rather than to lower his dignity by going to Mr. Alpert.

Mr. Alpert states that Palestine is one of the most progressive cities in which he visited. His impression is that it is a little New York City. Practically all of the printing equipment used in that country is of British manufacture. The population is about 50% American Jews and about 40% German Jews. In Mr. Alpert's opinion, these people form a very good combination of aggressiveness and thoroughness.

The Gentle Art of Walking the Plank

THIS fantastic step was introduced by the heartless, roving pirates of old, who bound and blindfolded their victims preparatory to a forced plunge into the briny deep.

Today the buyer of rollers may be bound by habit or blinded by conflicting claims and statements as to the proper roller to purchase to efficiently serve a *specific purpose.*

There are, however, many fine products on the market worthy of serious consideration, time-tested and hardened for the rigors of strenuous service. Rollers made by Ideal belong in this classification, and unsolicited endorsements from many of the largest plants throughout the United States give the positive assurance that these rollers will live up to every claim made for them.

Consider for a moment these many advantages of the Ideal Vulcanized-Oil Distributing Rollers, Ideal Process Rollers and Ideal Synthetic Rubber Rollers for use on letter presses and high-speed rotaries:

MADE OF MATERIAL SOFT ENOUGH TO DO AN EXCELLENT PRINTING JOB
NO SHRINKING, EXPANDING OR MELTING
ABSOLUTE CONCENTRICITY
NO BREAKING-IN OR AGING NECESSARY
PROPER SUCTION OR TACK, WITH AN AFFINITY FOR INKS
YEAR-AROUND SERVICE
LONG LIFE
ECONOMY OF COST AND OPERATION

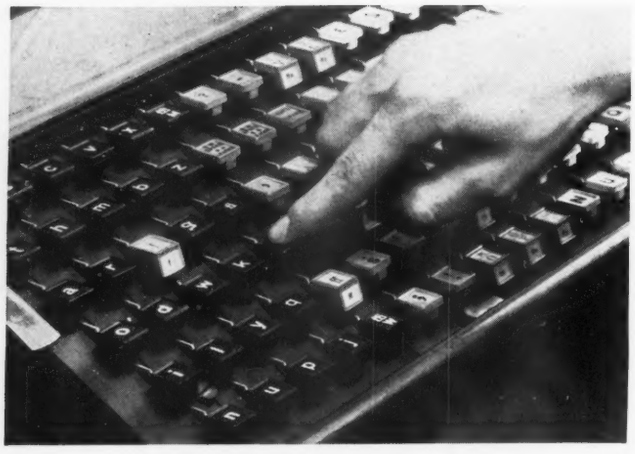
With this modern roller equipment you can look forward to clear skies and calm seas ahead. They are a decidedly profitable investment for your plant and will pay big returns by saving both time and material as well as by producing better results.

IDEAL ROLLER & MFG. COMPANY

CHICAGO *Branch sales offices located in principal cities* NEW YORK

★

HOW WILL IT PRINT?



● Depressing that key starts a character on its way—but the metal is a deciding factor in "How will it print?" When the metal supply is properly balanced and properly controlled, then printability is good, but it is impossible to do good printing with poor metal. Consider the metal situation in your plant—is it everything it could be? If not—then why not do something about it?

Imperial metal controlled by the Plus Plan is improving and sustaining the quality of printing in thousands of plants all over the country. These plants use Imperial metal because they can rely on it. From past experience they know that Imperial has no peer. They find that by using Imperial type metal their casts are sharper and cleaner, they have fewer run-overs and enjoy lower yearly metal costs. Investigate

Imperial

IMPERIAL TYPE METAL COMPANY

PHILADELPHIA • NEW YORK • LOS ANGELES • CHICAGO

Smooth Roller in Lithography

By ADAM HENRY REISER

Advent of smooth roller aided materially in progress in the art—Light setting of form roller to plate is essential to secure greatest utilily.

"OH, IF I only had a good grain leather roller, I'd get rid of these streaks," or "I'd pull this out clean," or "I'd be able to control the water better." How many times have you heard that plaint in lithography? Not generally, of course, for some of the best foremen in the offset press line come out flat-footed for the smooth composition or rubber roller in use today. Such outstanding foremen as McAlpine, Noll and Zeller think the leather grain idea is all a state of mind, just as ink and other preferences usually turn out to be.

The possibilities are that should all pressmen be forced to go back to the leather roller, smooth roller demands would then be heard. Something like the story of the uncle who wanted his nephew to stay with him for the school vacation period. The boy's mother finally shipped him off to the uncle because of the danger of a landslide in the village. A few days' stay at the uncle's house moved the latter to send the following words to the boy's mother: "Take back your boy. Send landslide instead." And so it might be with the leather roller.

Lithography's advance was brought about by many contributing factors. The advent of the smooth rubber and also the composition roller aided materially in this progress. As is well known, these rollers have almost completely replaced the leather roller in offset printing. The three forms of replacement, vegetable oil compound, synthetic rubber and rubber rollers have proved their worth. But they are by no means fool proof. As a matter of actual fact, in some instances it might seem a greater degree of trade skill and precision workmanship is required when working with the smooth roller than might be the case with a leather roller.

Correct Setting Essential

Everything else being equal, the leather roller takes quite an overcharge of water before the squeegee action (so prevalent with smooth rollers, poorly set) sets in. For one thing, when this squeegee action of the smooth composition roller takes place, fine and isolated tints may begin to be missing from the printed sheet. For not only will the water be gathered out ahead of the roller, but the image will be robbed of ink, thereby causing blind, mealy tints. Sometimes skidding sets in. Then in an effort to rid the plate of the scum occasioned by this rubbing action, stronger water fountain dope is used. This, too, will lead to an inevitable sharpness of the design.

Irrespective of the kind of roller used in lithography where a water fountain is used, a certain flatness and gray print will result when the water has gotten the best of the ink. Some craftsmen then pile on the color in an effort to bolster up the print. Of course, when this over-charging takes place, the heavy tints fill in, the fine ones wear and the middle-tones gain, not to mention the possibility of set-off on the back of the sheet.

Mr. Noll lays much of the trouble with the smooth rubber or composition roller to the use of coarse-grained plates. The need for excessive water as a result of the large reservoirs of water carried in the pits of the grain make for flat prints. Mr. McAlpine, on the other hand,

More and More TIMKEN Bearings are being used in Modern Printing Presses

You'll find TIMKEN Tapered Roller Bearings on the really tough jobs because they *endure.* For instance: in the latest 32-unit high-speed newspaper press built by Goss for the Chicago Tribune—one of the largest and fastest presses ever made—TIMKEN Bearings play an important part in making possible a press speed of from 50,000 to 60,000 complete newspapers per hour. More and more throughout American industry you will find Timken the desired anti-friction bearing. Such established merit must impress any user of machinery with the importance of insisting on TIMKEN Tapered Roller Bearings when buying printing presses—automobiles, trucks and buses—machine tools—oil field equipment—or any kind of modern machinery.

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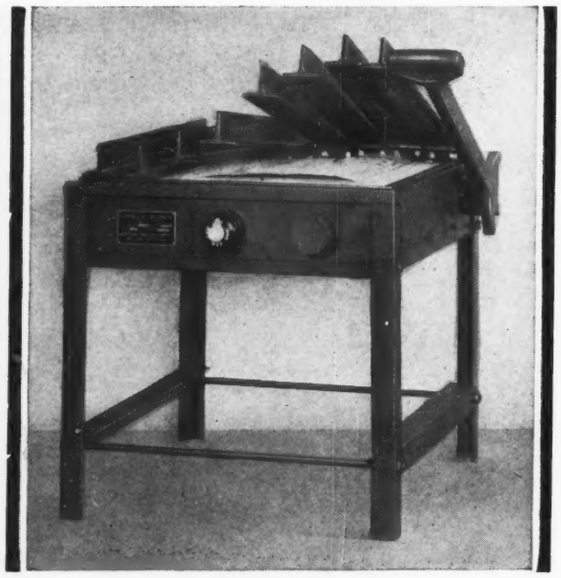

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has placed the finger on a faulty ink mixture. With an ink of too thin consistency, lacking body, there can be no adequate balance of water and ink (grease). Emulsification sets in, finally reaching the stage where the ink can no longer take up or consume its quota of moisture, an overbalance occurs and faulty printing sets in.

Grained Surface Composition Rollers

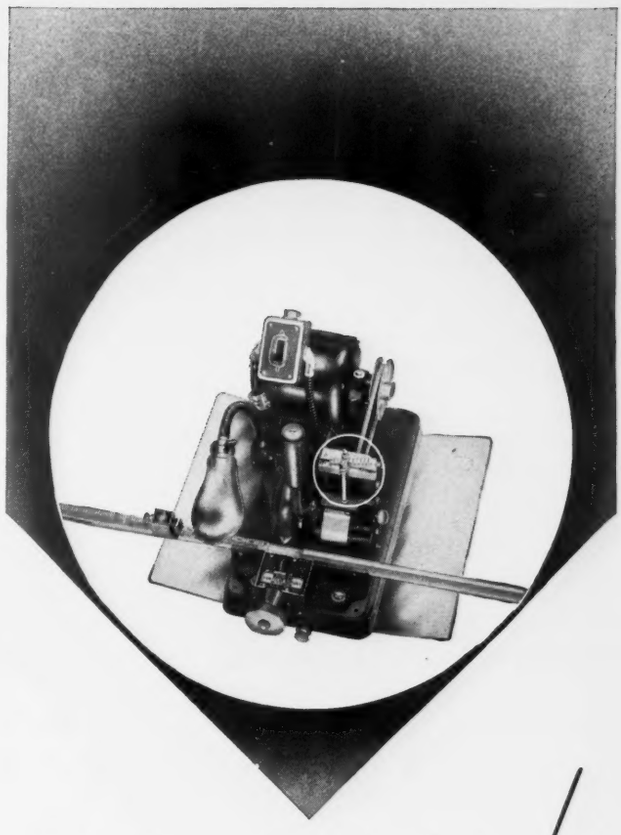
In an effort to achieve some of the beneficial effects of the grained leather roller, one roller company puts a grain onto the surface of composition and rubber rollers, upon customer demand. This is not only true of form rollers, but is also true of the distributor. And strange to say, this is done for only two makes of offset presses. In this way the adherents of this particular procedure hope to achieve the suction or pull so necessary to clean, sharp printing. In this way, too, they believe the big talking point against the leather roller (that of an uneven diameter even before the numerous scrapings and sandpaperings) is dispelled, while at the same time the roller retains the leather grain surface.

But how about the enormous advantage of a speedy washup held by a smooth roller? How can a grained rubber or composition roller be washed up with a washup machine and at the same time have the ink removed from the pits of the grained surface? Where, then, is the argument for cleanliness present in the smooth roller? It is far simpler to go from a black to a yellow color with the latter type of roller than it ever was with a leather roller. Of course, some shops using leather rollers always had extra sets for their lighter colors. This helped some. But then additional time had to be put into the proper setting of these rollers when they were put into the offset press. There are no two alike in diameter. With the smooth roller never removed from the press even during washups, resetting takes place at greater intervals.

The old-timer remembers the infinite time and pains spent in breaking in the leather roller and keeping it in condition. He remembers the seam troubles, the uneven grain, the bagginess of the skin, the slipping of the hide and the many numerous other troubles. It is difficult to sell such a man the idea of the leather roller. Much loving care was bestowed upon the old leather roller by the pressman. Today, the help takes care of the washups with a washup machine. It is often questioned whether the same attention is paid to those tools, today, in the helper's hands.

(Continued on Page 67)

Float entered by the Central Paper Company, Inc., in the parade of progress at the centennial celebration featuring the wood-using industries of Muskegon, Mich., from July 18 to 31. The float featured a replica of the first Kraft Pulp Digester in the United States. Production was first started by the Central Paper Company in 1900. It is claimed that Central's mill was the first one in the country to introduce Kraft papers.



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Address.....

Photo-engraving Hazards

Familiarity breeds carelessness in the use, storage and handling of chemicals—Suggestions made for alleviation of accidents

SOUTHEASTERN Photo-Engravers conference in Atlanta brought together an unusual combination of ideas on the subject of Newspaper and Commercial photo-engraving. One of the outstanding sessions covered hazards in plants, both fire and toxicity of chemicals. S. M. Thronsen of the Photo Laboratory of the University of Florida, P. H. Staub of Merck & Company and W. W. Warfel of the Chemco Company developed this subject and agreed on both the technical and practical causes, effects and methods of prevention.

According to Mr. Staub, it is an old and very true statement that " 'Familiarity breeds contempt', particularly in the use, storage and handling of chemicals. Nitric acid is spilled on floors and swept up with sawdust, benzol is poured hundreds of times a day in sinks while cleaning plates, cyanide is handled as carelessly as table salt, collodion is poured on plates while men are smoking and nothing happens. When an accident does happen, an excess of precaution is the rule for a short time and gradually the precautions are forgotten until another accident happens in that or another shop."

During one of the discussions Mr. Gronsen concluded his statement by saying, "The majority of chemical fumes cause a gradual and insidious deterioration of parts of the body, generally the lungs and stomach, and the effects are seldom recognized at the time. If the proper precautions are taken there is no hazard in the use of toxic chemicals."

Chemical Fires

There is an ever present danger in plants using volatile chemicals such as ether, benzol, alcohol and gasoline, if used too close to an open flame. Nitric acid and chromic acid attack any organic material such as paper, rags, wood, excelsior, etc., with a liberation of heat and a consequent danger of spontaneous combustion.

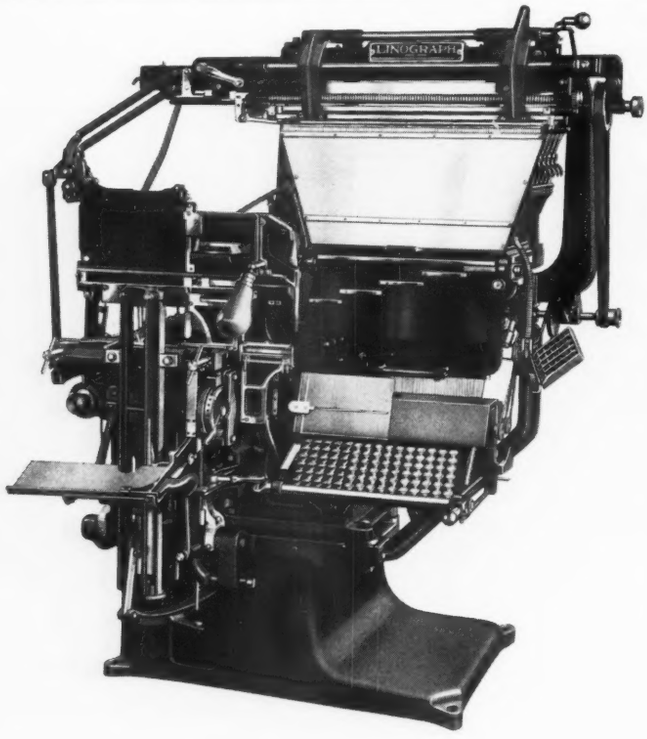
Chemicals which may or may not be capable of starting a fire of themselves are dangerous during a fire. Among these are nitric and acetic acids which give off corrosive fumes when heated, sodium and potassium cyanides which give off deadly hydrocyanic acid gas, caustic soda and caustic potash which melt under heat and will cause dangerous burns if brought into contact with the skin in molten form, Silver Nitrate drippings on paper or soaked in wood which will ignite from friction. The overheating of containers of ether, benzol, collodion, alcohol or nitric acid may cause explosions of considerable violence.

Adequate ventilation will protect the worker from fumes, in a large measure prevent the beginnings of a fire.

Extinguishers

There are a number of fire extinguishers on the market sold under various trade names, all of which have their uses. However, in all plants where these materials are used it is advisable to install carbon dioxide extinguishers in place of the usual type for the reason that this type

(Continued on Page 68)



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INTERTYPE MATRIX FACES

One of the new faces announced by Intertype Corporation is Regal No. 2a with Antique. An important difference in the new series of Regal and the original design is that the No. 2a series has thinner capital letters and a heavier bold face. The 7 point size is now ready.

The Beton Extra Bold series has been further augmented by the 8 and 10 point sizes. Beton Extra Bold is combined with Beton

THIS PARAGRAPH is set in 8 Point Beton Wide with **Beton Extra Bold** $1234567 **$123456**

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THIS PARAGRAPH is set in 7 Point Intertype Regal 2-A with **Antique**

Wide in sizes up to 14 point and the larger one-letter mats are now being made in sizes up to 60 point.

For those who need a face that will set a maximum number of words to the square inch, Intertype is now offering a 4-point size of Century Expanded duplexed with Gothic No. 16.

RULE-MATCHING CHART

A celluloid Monotype Rule-Matching Chart, 3 in. by 6 in. size, is being distributed by the Lanston Monotype Machine Company. The chart shows in gauge size with the point-size designation directly opposite 21 straight-line rules. The chart is intended for use by layout men and composing room employees working on commercial printing and advertising, as well as those who prepare copy for printing. The rules bleed off either side of the card to facilitate use as a guage in determining the exact point or fractional point size of any of the 21 specimens shown on the card. The Lanston Monotype Machine Company will be glad to send a copy of the Rule Chart to any reader of *Printing* EQUIPMENT *Engineer*. It may be obtained by writing on your company's letterhead.

Announces Improved No. 1 Kelly

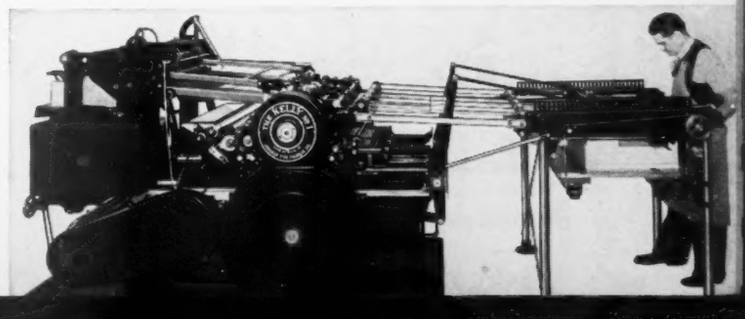
With a new type of drive, the introduction of automatic lubrication and improvements of feeder and delivery, American Type Founders announces greatly increased operating convenience of its 20 in. by 26 in. No. 1 Kelly press. The new drive permits adjustments of speed with a hand-wheel. A tachometer is also included to record the rate of speed at which the press is producing.

A system of automatic lubrication feeds oil continuously to the main bearings and in proportion to the needs of the press without any attention from the pressman.

A new double-pile feeder eliminates shut-downs for paper loading, insuring virtually a continuous supply of stock during an entire run.

Changes at the delivery include an automatic lowering device. The pressman can forget the delivery now until he has run a pile as high as 27½ in., or 6500 sheets of average stock. With a lower delivery bar, lifting of a printed sheet for inspection is easier.

View of ATF newly improved 20-in. by 26-in. No. 1 Kelly press. Variable speed drive, automatic lubrication, a tachometer, a double-pile feeder and automatic lowering device are new features.



Re-Stereotyping is the hardest test of mat quality

MOLDING and casting each involve slight losses of depth from that provided in the original halftone engraving. Where there is a flat cast first, as in syndicate and advertising mats, followed by re-stereotyping the page form, this loss is doubled.

The fact that Certifieds are most widely relied upon in the syndicate and ad field shows that they offer a depth of mold highly gratifying in page mat molding operations.

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DRY MATS

Patents

JUNE-JULY, 1937

Feeding, Folding, Delivery:

2,083,936. SHEET DETECTOR. Headley Townsend Backhouse, London, England. Application July 17, 1935, Serial No. 31,878. In Great Britian August 2, 1934. 6 Claims. (Cl. 192—126.)

1. In a sheet feeder, an element for supporting sheets as they are fed, a roller arranged above the supporting element mounted to permit up and down movement bodily and running upon the sheets passing over the supporting element, and tripping means set in motion by the rise of the roller when more than the predetermined number of sheets pass beneath it, the tripping means comprising a pivoted detector plate normally out of engagement with the roller and adapted to be engaged and turned by the roller when the latter is lifted above its normal position, that part of the roller which engages with the detector plate when the roller rises being of less diameter than the portion which engages with the sheets being fed.

2,084,065. SHEET FEEDING MACHINE. Robert Reinartz, Offenbach, near Frankfort-on-the-Main, Germany, assignor to Arthur Wormser, Offenbach, near Frankfort-on-the Main, Germany. Application March 4, 1937, Serial No. 129,069. In Germany July 20, 1932. 8 Claims. (Cl. 271—27.)

1. In a sheet feeder, the combination of sheet separating means and sheet forwarding means adapted to convey sheets in lapped relation to a paper handling machine such as a printing press, the separating and forwarding means including pneumatic means arranged to engage a sheet at its upper surface adjacent its leading edge and separate it from a pile of sheets, a plurality of second pneumatic means operated to take over a separated sheet from the first mentioned pneumatic means and engage the sheet at its lower surface, and a series of axially spaced forwarding members arranged to receive separated sheets from the second pneumatic means and advance them in lapped relation, each of the latter pneumatic means operating within the space provided between a pair of the forwarding members to transfer sheets to the latter and beneath the lowermost one of sheets already being forwarded by the members.

Miscellaneous:

2,081,320. DOCTOR BLADE FOR ROLLS, TRAVELING WEBS, AND THE LIKE. James Roy Burgess, Toronto, Ontario, Canada, assignor to Canadian Wallpaper Manufacturers Limited, Toronto, Canada. Application August 10, 1935, Serial No. 35,616. 1 Claim. (Cl. 91—18.)

In a doctor, the combination of a pair of rigid retainers, a glass blade mounted between the retainers and extending beyond the forward edge, resilient packing between each face of the blade and the adjacent retainer, and means for securing the retainers and blade together, and spacing means between the retainer for limiting the compression of the packing.

2,081,916. PROCESS FOR THE PHOTOMECHANICAL REPRODUCTION OF ANIMAL SKINS AND THE LIKE. Karl Eichstadt, Berlin-Friedenau, Germany, assignor to Oxford Varnish Corporation, Detroit, Mich., a corporation of Michigan. No Drawing. Application September 3, 1935, Serial No. 39,069. In Germany September 11, 1934. 3 Claims. (Cl. 41—26.)

3. The process for decorating surfaces in simulation of light colored animal skins, leathers and the like, comprising the step of applying a dark colored polishing wax to such skins, leathers and the like and thereafter photographically reproducing a negative or reverse printing plate from such article and transferring the design from the reverse printing plate to the surface to be decorated.

2,081,949. METHOD OF PRINTING. Walter W. Mock, Rutherford, N. J., assignor to The International Printing Ink Corporation, New York, N. Y., a corporation of Ohio No Drawing. Application December 18, 1931, Serial No. 581,988. 8 Claims. (Cl. 91—67.9.)

1. The method which consists in printing on an article with a printing ink which does not dry on the press and which contains a pigment dispersed in a solution of nitrocellulose dissolved in dimethyl phthalate, and immediately after printing diluting the dimethyl phthalate in the printed film of the ink with melted paraffine wax to precipitate or coagulate the nitrocellulose to produce a hard adhesive non-smearing film occluding the pigment.

2,083,884. WASTEPAPER DE-INKING AND DE-FIBERING PROCESS AND APPARATUS. Harold Donald Wells, Glen Falls, N. Y. Application September 24, 1932, Serial No. 634,748. 26 Claims. (Cl. 92—20.)

1. A process of de-fibering and de-inking waste papers, comprising the steps of submerging and pulping the papers in a detergent solution to continuously form a thin fluid, continuously discharging a stream of this fluid from the solution container and screening it before discharge to leave all screen rejections in the container for further pulping, adding detergent solution to the container as needed to maintain the consistency of the discharging stream of fluid, continuously subjecting the pulp in the flowing stream to a myriad to pressure-rolling operations to hydrate and de-fiber the same and reduce dirt and ink in the stream to fine particles, and continuously removing dirt and ink particles and detergent from the flowing stream.

Platemaking:

2,080,965. PROCESS OF PHOTOENGRAVING. Harry Funck, Chicago, Ill. Application February 25, 1932, Serial No. 595,112. Renewed October 17, 1936. 16 Claims. (Cl. 95—5.6.)

1. The process of making a light sensitive printing plate adapted to be processed for relief etching, consisting in applying a substantially liquid coating of light sensitive substance on the surface of a supporting base and fusing therewith while still in a substantially liquid state a second substantially liquid coating of light sensitive substance of lesser sensitivity thereover.

2,082,372. METHOD OF AND MACHINE FOR REGISTERING AND PROVING PRINTING PLATES. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application May 5, 1931, Serial No. 535,165. Renewed August 8, 1936. 34 Claims. (Cl. 101—174.)

1. The method of registering printing plates to be used on the plate cylinder of a printing press, which comprises preliminarily printing from a plate to be registered on impressions made from a key plate, shifting the plate to be registered until the impressions from the two plates register, marking the edges of the plate to be registered, and locating the plate on the plate cylinder of the printing press by the marks.

2,082,475. HALF-TONE SCREEN AND METHOD OF MANUFACTURE THEREOF. Frank C. Zoller, Cleveland, Ohio. Application September 18, 1936, Serial No. 101,470. 8 Claims. (Cl. 95—81.)

1. The method of making a half-tone screen comprising engraving a transparent plate by rubbing an abrasive in a circular movement over the surface, coating the surface so en-

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● That is all we ask, just try Booth's Crepe Finished Keyboard Rollers once. You composing room men who know what a real keyboard roller should be like, will find Booth Rollers have exceptional cam-gripping qualities. The cams MUST revolve because of the positive driving power of the crepe finished roller surface and because these rollers contain as much pure gum rubber as it is possible to put into a keyboard roller. They are concentric from end to end. Crepe finished or Corrugated Tread, as you choose. $1.30 per pair. $7.00 per dozen. 55c each in lots of 100. Again we ask you to try them once.

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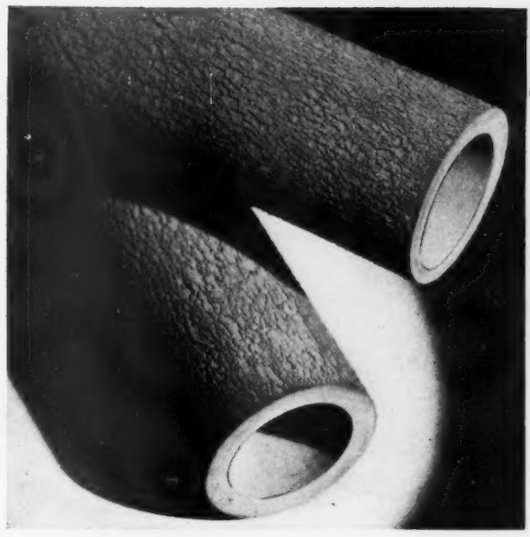

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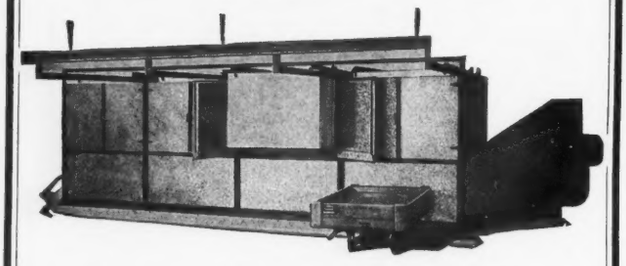

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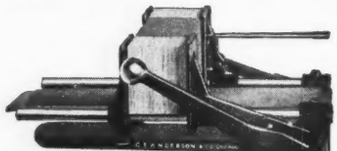

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graved with an opaque material, permitting the opaque material to partially dry, then removing the opaque material from unetched portions of the plate, but allowing the opaque material to remain within the etched lines.

4. A half-tone screen comprising a transparent plate, irregular overlapping arcuate engravings upon a surface thereof, the engravings being filled with an opaque material.

2,083,898. PLATE FINISHING AND TRIMMING MACHINE. Edmund W. Dean, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich., a corporation of Michigan. Application December 20, 1935, Serial No. 55,466. 13 Claims. (Cl. 29—21.)

1. In a machine for finishing tubular stereotype plates; a rotatable plate holder, a gear thereon, a bar extending axially through the plate holder, a plate trimmer slidably mounted on the bar, a rack bar connected with the trimmer, a shaft disposed transversely of the bar, a pinion loosely mounted on the shaft, a clutch member on the shaft adapted to engage the pinion, a worm gear on the shaft, a driven shaft parallel with the bar, a worm on the shaft meshing with the worm gear, a pinion on the driven shaft meshing with the gear on the plate holder, a pulley loosely mounted on the driven shaft, means for driving the pulley, a clutch member splined on the driving shaft adapted to engage the pulley, and a treadle and connections whereby the clutch member may be thrown into and out of engagement.

Printing Presses:

2,081,906. INKING MECHANISM FOR PRINTING MACHINES. Harry V. Ball, Concord, Mass., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application May 5, 1934, Serial No. 724,149. 29 Claims. (Cl. 101—366.)

18. The method of inking a printing machine arranged for printing separate pages having separate columns, which consists in supplying separate quantities of ink and independently maintaining each quantity of ink at predetermined pressure, distributing the ink from each quantity to supply each page, and independently controlling the supply of ink from each quantity to each column of each page.

22. In an inking mechanism for printing machines for printing a plurality of pages and having an ink distributing apparatus, an independent pressure-controlling ink chamber for each page communicating with the ink distributing apparatus of the printing machine, and means for independently pumping ink in a constant flow of uniform pressure into each chamber.

2,082,145. MULTICOLOR PRINTING MACHINE. John A. Boyce, deceased, late of Berkeley, Calif., by John F. Thomas, administrator, Berkeley, Calif., assignor to Josie Boyce, Berkeley, Calif. Application January 15, 1935, Serial No. 1,884. 5 Claims. (Cl. 101—180.)

1. In a printing unit having a plurality of printing couples consisting of a vertical tier of impression cylinders and a plate cylinder laterally cooperating with each impression cylinder; means for directing a web upwardly to the lowermost printing couple and thence upwardly through the series of printing couples, a drag roller, and a guide roller in web-co-operative relation to each impression cylinder and to the drag roller, whereby a web may be forwarded at will from any impression cylinder in the series of the drag roller.

2,082,318. SHEET FED MULTICOLOR ROTARY PRINTING PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application September 17, 1935, Serial No. 40,877. 4 Claims. (Cl. 101—174.)

1. In a sheet fed multicolor rotary printing press, an impression cylinder, form cylinders, inking mechanisms, means for feeding sheets to the impression cylinder, a heating cylinder, a cooling cylinder, a separate interposed means arranged to transfer the sheets from the impression cylinder to the heating cylinder a sheet delivery carrier traveling in an endless path, and an interposed means arranged to transfer the sheets from the cooling cylinder to the traveling endless carrier.

2,082,319. SHEET FED MULTICOLOR ROTARY PRINTING PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application September 17, 1935, Serial No. 40,878. 5 Claims. (Cl. 101—174.)

1. In a sheet-fed multicolor rotary printing press, an impression cylinder, form cylinders, inking mechanisms, means for feeding sheets to the impression cylinder from a source of sheet supply at one side, a heating cylinder, a cooling cylinder, an interposed means separate from the cooling cylinder arranged to transfer the sheets from the impression cylinder to the heating cylinder, and coacting sheet delivery carriers traveling in endless paths and arranged to deliver the sheets to a predetermined point at the opposite side from the source of sheet supply.

2,082,324. PRINTING PRESS. Curtis S. Crafts, Oak Park, Ill., and Stanley D. Livingston, Freeport, N. Y., assignors to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application August 24, 1935, Serial No. 37,614. 18 Claims. (Cl. 101—1.)

1. A high spedd rotary newspaper printing press unit installation including in combination a rotary perfecting newspaper couple, side frames mounted, a press foundation, and relatively long springs bars on which the side frames are supported on the foundation.

9. A vibration-isolating mounting for printing presses including in combination a relatively long spring, means for pivotally supporting a press frame adjacent to the spring ends and means in which the cylinders of the couple are rotatably adjacent to the first means for pivotally supporting the spring on a foundation.

2,082,396. PRINTING PRESS. Maxwell H. Hill, Rochester, N. Y. Application May 15, 1935, Serial No. 21,612. 11 Claims. (Cl. 101—316.)

1. In a printing press, the combination with a platen and a form carrier movable toward and from the same with a reciprocatory motion, of means for operating the carrier embodying a guide therefor, a pair of rock arms, a saddle block self-adjustable to the carrier under stress to establish a single line of pressure against the carrier, a pair of articulated pressure transmitting members connecting the rock arms and the saddle block, and rotatable eccentric means for rocking the arms with great mechanical advantage against the resistance of the saddle.

2,083,099. PRINTING PRESS. Frederick W. Seybold, Westfield, N. J., assignor, by mesne assignments, to American Type Founders, Incorporated, a corporation of New Jersey. Application January 17, 1936, Serial No. 59,604. 13 Claims. (Cl. 101—286.)

1. In a printing press or the like, in combination, a printing couple, means for driving each member of the couple at approximately the same linear velocity, a driving shaft for one of the members and a gear for transmitting the driving force to the shaft, and a compensating connection between the gear and the shaft for permitting the member to be directly driven by the other member of the couple at the same linear velocity, regardless of inequalities in the veolcities imparted by the first named driving means, the connection comprising a crank carried by the shaft, a lever fulcrumed upon the gear at a point upon one side of the axis, the axis of the fulcrum being perpendicular to the plane of the gear, and having a resilient connection with a portion of the gear, the other arm of the lever being slidably connected with the crank.

2,083,110. WEB PERFECTING ROTARY PRINTING PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application February 3, 1936, Serial No. 62,071. 16 Claims. (Cl. 101—178.)

1. In a web perfecting rotary printing press, first and second printing units in line with the press, a drying unit comprising heating and cooling cylinders located out of line with the press, and means for passing the web through the printing and drying units.

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2,083,497. ROLLER ATTACHMENT FOR LITHOGRAPHIC MACHINES. Ralph C. Dix, New York, N. Y. Application October 18, 1935. Serial No. 45,629. 3 Claims. (Cl. 101—351.)

1. The combination with a rotary lighographic printing press, comprising an inking head, a cylindrical lithographic plate and a frame tie bar; of a detachable auxiliary inking device for diverting a part of the ink from the inking head, serving the lithographic plate, to a separate circumferential portion of the plate, the device comprising a pair of split collars, provided with offset lugs and spacedly clamped around the tie bars, two chassis plates with lugs interlockingly engaging the aforesaid lugs, a set of ink-transferring rollers journalled between the chassis plates and a pair of adjustable braces, adapted to tie the free-swinging ends of the chassis plates to the frame structure of the inking head at a proper angle for operative contact of the auxiliary inking device with the inking head and the lithographic plate.

2,083,542. INKING MECHANISM FOR ROTARY PRINTING PRESSES. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application June 20, 1935, Serial No. 27,481. 4 Claims. (Cl. 101—350.)

1. In an inking mechanism for printing presses, a vibratory low speed ink cylinder, a vibratory high speed ink cylinder, a pair of ductor rollers operating between them, and means for adjusting the relative positions of the two ductor rollers.

2,083,754. ROTARY PRINTING MACHINE. George Turrall, London, England, assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application October 31, 1934. Serial No. 750,793. In Great Britian November 29, 1933. 10 Claims. (Cl. 101—249.)

10. A reversible printing cylinder, two staggered sets of margin bars on the cylinder, means so mounting the bars that the angle of stagger is reversible to correspond to reverse rotation of the cylinder, a reversible impression cylinder, blankets around the impression

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Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909 2nd St. So., Minneapolis, Minn.
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cylinder and having their ends received within two coextensive longitudinal recesses which are formed in the cylinder and are spaced apart through an angle equal to the angle of stagger of the margin bars, filling pieces in the recesses and having such length as to leave open at opposite ends of the recesses a length of recess equal to the length of a margin bar, means mounting the filling pieces for movement in their recesses whereby the open parts of the recesses can be reversed to correspond to reversal of the stagger of the margin bars, two blanket straining devices associated with each recess and located on opposite sides thereof, a clutch device interconnecting the two cylinders and having two clutching positions, one providing register between the bars and the open parts of the recesses in one position and the other position providing register between the reversed bars and the reversed open parts of the recesses, a second printing cylinder and a second impression cylinder operating on a web which is also operated on by the first printing cylinder and impression cylinder, and a second clutch device interconnecting the first and second cylinders and having two clutching positions one of which provides register between the first and second cylinders when the web is led in one direction and the other position providing register when the web is led in the other direction.

2,083,862. ROTARY PRINTING MACHINE. Sherman H. Paxton, Los Angeles, Calif. Application May 3, 1933. Serial No. 669,173. 7 Claims. (Cl. 101—245.)

5. A printing machine comprising a frame, a rotary printing member mounted thereon, a relatively yieldable rotary impression member cooperating with the printing member for moving sheets of material through the machine in a printing operation, a manually operable locking device engageable with and for limiting the rotation of the printing member to one revolution at each printing operation, a yieldably supported applicator inking roller engageable with the type faces of the printing member, a yieldably supported distributor roller engageable with the applicator roller, and means associated with the printing member for retracting the rollers from operative positions at a point near the completion of each printing operation, the last mentioned means being effective for first disengaging the distributing roller from the applicator roller and subsequently disengaging the applicator roller from the printing member.

2,084,281. PRINTING PRESS. Charles A. Meisel, Milton, Mass., assignor to Meisel Press Manufacturing Company, Boston, Mass., a corporation of Massachusetts. Application August 10, 1935. Serial No. 35,656. 19 Claims. (Cl. 101—181.)

1. A multi-impression rotary press comprising a substantially single frame brackets overhung therefrom and carrying a number of printing cylinders grouped about a center and each adjustable substantially radially to and from the center, an impression mechanism centrally arranged within the set of printing cylinders, the parts being exposed at the side remote from the frame.

Recent Equipment Sales

GE Orders Increase

Orders received by General Electric Company during the first six months this year amounted to $217,265,619, an increase of 59% over the $136,968,597 received during the same period last year, President Gerard Swope announced recently. The record first half year was in 1929 when orders received amounted to $220,716,456.

Linotype Installations

Linotypes recently have been installed by the Stoughton (Mass.) *Chronicle;* Winkler *Sun*, Kermit, Tex.; McCormick & Company, Inc., Baltimore, Md.; Advertising Typographers, Inc., Chicago; Montana State University, Missoula, Mont.; Mrs. Madelyn Skelton & Floyd H. Fye, Chicago (two Linotypes); Black Belt Printing Company, Selma, Ala.; Taunton (Mass.) Daily *Gazette;* Interstate Printers, Inc., Meridian, Miss.; J. D. de Lamirande & Cie, Montreal, Quebec; La Follette (Tenn.) *Press;* Paragon *Press*, Sioux City, Iowa; Magoffin & Doye, Hollywood, Calif.; Marshfield (Wis.) *News-Herald* (two Linotypes); Concordia (Kan.) *Blade-Empire*; I. N. Blue Printing Company, New Brunswick, N. J.; M & L Typesetting & Electrotyping Company, Chicago; Standard Printing Company, Shreveport, La.; Great Falls (Mont.) *Leader and Tribune;* Kannapolis (N. C.) *Independent;* Fort Lupton (Colo.) *Press;* Fort Collins (Colo.) *Express-Courier;* New Haven (Conn.) *Register;* Sioux Center (Iowa) *News;* Greenfield (Iowa) *Times;* O'Sullivan Linotype Composition Company, New York; Baltimore (Md.) *Sun;* Monroe (Wis.) Evening *Times;* The Acme Press, Lexington, Ky.; Harrisburg (Pa.) *Patriot and Evening News; Central Oregonian*, Prineville, Ore.; Odessa (Tex.) *Bulletin;* Battle Creek (Mich.) *Enquirer-News;* Brookville (Pa.) *Republican;* Terry (Mont.) *Tribune;* Leaksville (N. C.) *News;* Pfeuffer & Dibert, Pittsburgh, Pa.; Safran Printing Company, Detroit (two Linotypes); Goshen (Ind.) *News-Times and Democrat;* Russell (Kan.) *News;* Lowell (Mass.) *Courier-Citizen.*

Install Ludlow Equipment

Ludlows have been recently installed by the Philadelphia *Daily News;* Allentown (Pa.) *Call;* Galesburg (Ill.) *Register-Mail; Abendpost*, Chicago, Ill.; Yonkers (N.Y.) *Herald-Statesman;* Stockton (Calif.) *Record;* Bridgeville (Pa.) *News;* Baldwin (N.Y.) *Bulletin;* Brownsville (Tex.) *Herald;* Bayonne (N.J.) *Times-News;* Loudoun *Times-Mirror*, Leesburg, Va.; Associated Hungarian Weeklies, Detroit, Michigan; St. John (N.B. Canada) *Telegraph-Journal* and *Times-Globe;* Progress Publishing Company, Hammond, La.

Duplex Shipments

A new 16-page Duplex Unitubular press has been shipped to the El Comercio, Quito, Eucador. This press equipment includes reversing cylinders and special color registering mechanism for color printing. The press is equipped with a half page folder with a Duplex quick-fold centering device for quick centering of the half page fold. A complete set of tubular stereotype equipment is included with the shipment.

A new 8-page deck has been shipped to the Scioto *Gazette*, Chillicothe, O., to bring a 16-page Standard Tubular press up to 24-page capacity.

A new 4-page Standard Tubular Unit has been shipped to the Safran Printing Company, Detroit, to change a 12-page Standard Tubular into a 16-page capacity press.

New Model A Flat-bed Web-Perfecting presses have been shipped to the Newark (N.Y.) *Courier*, and to the Sanford (N.C.) *Herald*.

Intertype Corporation

Intertypes have recently been ordered by the Sacramento (Cal.) *Bee;* Kalamazoo (Mich.) *Gazette;* Max M. Gordon, Malden, Mass.; *News-Reporter*, Whiteville, N. C.; Typecraft Service, Inc., New York City; W. E. Neilson & Son, Palo Alto, Cal.; William J. Kaiser, Westbury, N. Y.; Tab Printing Corp., New York City; C. H. Peterson Co., Joliet, Ill.; Reed Printing Co., Miami, Fla.; Dwight Kelly, Los Angeles, Cal.; Pyramid Press, Salt Lake City, Utah; Ford-Jorgensen Press, Salt Lake City, Utah; J. W. Clement Co., Buffalo, N. Y.; Kenaga Typesetting Co., Chicago, Ill.; D. W. Edson Co., Montpelier, Vt.; J. R. Condon & Sons, Albany, N. Y.; Eden Publishing House, St. Louis, Mo.; The Augustine Company, Grand Island, Neb.; American Menu Printing Co., Chicago, Ill.; T. H. Schulze Typesetting Co., San Francisco, Cal.; Hellman's Typesetting Co., Chicago, Ill.; Shaw-Chicago Printing Co., Chicago, Ill.; Fisher-Umlas Co., New York City; C. J. Sprague, Long Beach, Cal.; DeLuxe Check Printers, Chicago, Ill.; Merchants Industries, Inc., Dayton, O.; Golden Gate Press, Inc., San Francisco, Cal.; Metro Printing Service, Newark, N. J.; Reliable Typesetters, Peoria, Ill.

Install Elrod Equipment

Elrods have been installed recently by the Brooklyn *Daily Eagle;* Stockton (Calif.) *Record;* Salem (Mass.) *Evening News;* Progress Publishing Company, Hammond, La.; *Abendpost*, Chicago, Ill.; *Jewish Morning Journal*, New York City; Trenton (Mich). *Times;* Logan (W.Va.) *Daily Banner;* Associated Hungarian Weeklies, Detroit, Mich.

BECKER SAILS FOR EUROPE

Neal Dow Becker, president of Intertype Corporation, sailed for Europe recently on his annual visit among Intertype's subsidiary companies and sales representatives. Mr. Becker's headquarters while in Europe will be with Intertype Limited at Slough, Eng., a suburb of London. He is spending considerable time in the company's offices and manufacturing plant in Berlin. He expects to return to New York about October 1.

NETHERTON WITH INTERTYPE

Stanley Netherton has been appointed a sales representative in the San Francisco Division of the Intertype Corporation. He has been assigned to the State of Oregon, and several counties of Washington and Idaho. Mr. Netherton was born in Yerington, Nev., and received his education at that state's university. His practical trade experience was received in the plant of the Redwood City *Standard* and *Times-Gazette*. He left there to continue working at the trade in Palo Alto and Soquel, Cal.

Interesting Booklet

Alex Alberg, general superintendent of The Unity School of Christianity, Kansas City, Mo., sends us a copy of a booklet consisting of 36 pages, 4 in. by 5-7/8 in. size. The booklet in the African Ibo dialect is entitled *Icho Kraist Nime Ayi*, (Finding the Christ in Ourselves) and was translated by Oji Onwunka Oji whose address is Calabar, Nigeria, West Africa.

Ibo is not the language of the Africans but it is a dialect more widely used and understood than any other. The translation was laboriously painted by hand. Mr. Oberg states the copy was faultless. Sometimes it takes over a month for a letter to reach The Unity Press in Kansas City from Africa due to the irregularity of mail dispatch from some of the remote districts.

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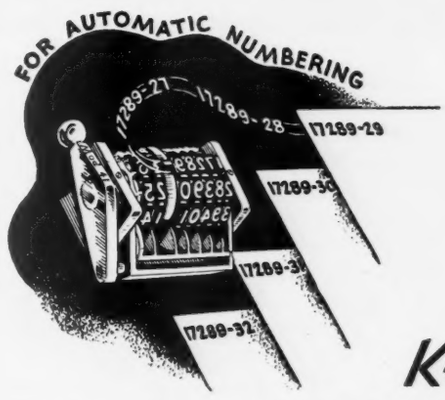

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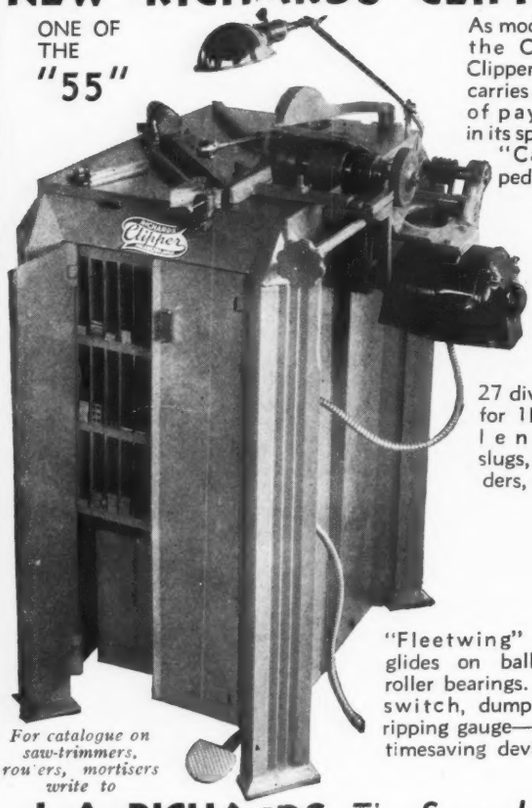

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Future Newspaper Color

By WALTER OGDEN*

Prominent executive discusses present methods—Makes suggestions.

THE producers of daily newspapers are confronted with one of two things if they intend printing color. Either the artistic content of the paper must be adjusted to the inequalities of high-speed letterpress newspaper printing, or the reproducing departments must change their method to meet the artistic content of the paper. Color, to successfully continue in the daily newspaper, must be of such outstanding beauty of interpretation that it will sweep aside the competition now offered by radio, magazines, and the television of the future. What are we to do? In the future, will there be some other method of printing the daily newspaper?

It is highly inconsistent to shout "Wrong" and not be able to say what is "Right." Evidently we have reached the limit of the capacity of the letterpress method of reproducing colors in the daily newspaper, but that standard is not high enough for the demands that are put upon it.

It is a problem for the engineer, the thinker, the inventor, and I repeat a new vehicle must be developed to carry us through the complications ahead of us. I am speaking about printed results only. I know there are those who will say "How about open deadlines, exchange of news and ad matter in the form of mats, etc., that letterpress only permits?"

A paragraph selected from a book issued in 1900 by R. Hoe & Co., Inc., read something like this: "A new press has been invented which will produce daily newspapers at a production speed heretofore unheard of, together with three added printings over the outside pages. Within the next decade we should see all daily newspapers printed in color."

That date was 1900 not 1937. Does this convince us, if after 37 years letterpress printing has not produced universally acceptable artistic quality run-of-paper color printing, that this method of printing is or is not the vehicle to the goal we must reach? Will we be able to further correlate rotogravure printing with the daily newspaper? Incidentally, this is being done in foreign countries with a certain promising degree of success and progress. Or will it be offset? We have all been interested in a certain type of printing which embodied the use of mercury. There is no questioning the quality or production speed of this type work but our own personal opinion was there was an element of danger to this process. This opinion was borne out by exhaustive research in which our own science editor together with the complete staff of the Western Reserve University pronounced the method as being dangerous to both operator and consumer, particularly the consumer, because the unanimous opinion of these scientific men was that the paper was charged to a certain extent with mercury, and in the event of being used for packing lunches, etc., danger of mercury poisoning existed.

Certainly we cannot stop progress. Neither can we lessen quality. Nor can we permit either or both to be

*Pressroom Superintendent and Pressroom Adviser, Scripps-Howard Newspapers. Abstract of address delivered at A.N.P.A. Mechanical Conference, June, 1937.

a jeopardy. We must not lower the standard of our art contents, but until we can print those contents acceptably we must revise them to the point where they can be more legible and to do this many things can be done.

First, the artist has to be reborn. One of the greatest helps to good newspaper color copy would be to have the artist familiarize himself with each step of the reproducing process of his work. It is hard to get the artist—temperamental soul—to think in the terms required for newspaper printing. The artist sees only the lovely work on his easel. Hair-line register means nothing to him. Tones, middletones, highlights, and what-have-you are tossed in with an innocent disregard to what lies ahead of them. No wonder he does not recognize the finished product or denies it as his own when it comes off the press. Personally, I think the artist who starts all of this color business, and the pressman who completes it should be closer together. The pressman should be consulted more than he is about what he is going to do. Too many with academic knowledge only of the pressroom direct the copy which must be reproduced by the pressman. An advance interview would enable him to show where possibly a change in copy would insure an improvement in the finished product; where some other change would enable him to run his colors in the correct sequence without encountering production difficulties. Too many lose sight of the fact the pressman, particularly on afternoon newspapers, must deliver a certain amount of newspapers in a certain time or the whole foundation of the particular newspaper is jeopardized.

To the advertising agency man let me offer a few suggestions which will help improve the present method. The establishing of dates color must run well in advance, if possible, and also getting the mats, zincs, etc., to the publisher in plenty of time so he can give the advertising agency a good job. Also, whenever possible, ordering the color for dates that do not conflict with large page size days of the daily newspaper.

For example, we will say a plant is equipped with one octuple press, four units, without color cylinders and is listed with the agencies as accepting one additional color. Now for the benefit of those who are not familiar with pressroom details I will say this octuple press will print up to 32 pages full capacity and undoubtedly the newspaper distribution is geared to this maximum production. Now with one added color running 32 pages, the plant would immediately go to one-half production. So you can readily see that if these color pages can be scheduled for days when the page size does not require the maximum capacity of the press for black and white alone, that much can be done to help the pressroom.

In the United States and Canada, and the territories, there are 2173 daily newspapers. Of this amount 140 accept run-of-paper color with one added color using their regular black unit, 46 accept one added color using an extra color cylinder which enables them to maintain full black page and production capacity as well as including the one added color, about 49 accept two added colors using their regular black and white equipment to do so thereby limiting their production and page capacity greatly, and 170 accept two or more added colors using a combination of existing black units and added color cylinders, all of which involves the slowing up of production and in many cases a maximum of page capacity. So you can readily see that late copy, etc., can easily cause a wave of delayed and inferior printing from coast to coast.

Let me ask again for more registration tolerance, more art effects that we can reproduce better. Give us pastels wherever possible because they reproduce beau-

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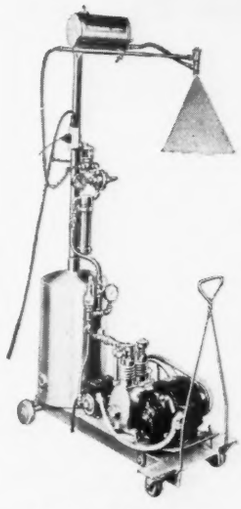

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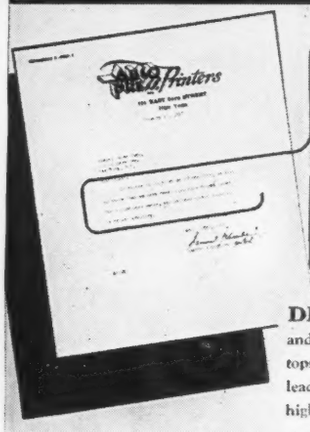

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tifully on a high speed press. In other words let's study cooperation as well as operation. Help us do our best for you.

Standardized Color

Let's not have as many colors in our paper as we have advertisers. It is most complicating now so what will it be when the daily newspaper is more nearly 100% color? Even now when we have a color page another advertiser will pull his color page or ask you to give him a different shade of red, yellow, and blue than the competitor's. Standardization of color rigidly adhered to will stop this.

The newspaper of today must not stand still. It, as well as the artists and all mechanical departments, must be born again or it will stand still and how long can anything as vitally important to civilization as the daily newspaper remain inactive?

The best minds in the manufacturing of newspaper machinery which illuminate the thoughts of the writers, the thinkers, the artists, and all those who produce our newspaper content are working roward a solution of this very pronounced problem which now confronts the daily newspaper.

PRESS IS MYSTERIOUS MACHINE TO UNINITIATED

Printers from Maine to California, speaking with brusque yankee accent and soft Southern drawl, are drawn irresistibly to "The Printing For Today" exhibit at the Great Lakes Exposition in Cleveland. They come to pass the time of day. They watch the printers working in this model print shop. They are on a holiday—but they talk shop. They want to know details of the modern machinery being used. Printing holds a lure for the uninitiated as well. The average layman who visits the "Printing For Today" exhibit, believes, among other things, that: the Kluge press is manufacturing paper, that "paint" is used to print cards and letterheads, and that type can be squeezed together in some magic fashion.

FLYNN REPRESENTS MLCo.

Frank T. Flynn, who is an operator and composing room efficiency man of many years' experience, is now representing the Mergenthaler organization in Connecticut.

Before joining the makers of the Linotype he was an operator for the Pittsburgh *Press*, and later was assistant ad foreman on the Philadelphia *Public Ledger*. He made a careful study of composing room problems and costs and put his system into effect in several New England newspaper plants. For five years he conducted a trade composition business of his own in New Haven.

Frank T. Flynn, Connecticut Mergenthaler representative.

WINES VISITS NEW YORK

An interested visitor to New York City in July was Ralph Wines, 18-year-old Des Moines East High School student, who won second prize and a trip to Manhattan in the recent IPI Essay Contest on Color. In addition to the customary points of interest, Wines visited several of the largest printing plants in the Metropolitan area, the IPI Research

Ralph Wines takes a trip to New York as guest of I. P. I.

Laboratories, and the Mergenthaler Linotype Company in Brooklyn. At Mergenthaler, he was the guest of Vice President Harry Gage.

This competition was sponsored in cooperation with the National Graphic Arts Education Guild. It was open to high school students of printing, and more than 4,300 individual entries from 243 different schools were received. Reginald Sundin, Los Angeles, won first place and a $400 scholarship to Carnegie Tech's School of Printing. He will begin his course this fall.

WAREHOUSE ABOUT COMPLETED

Construction is about completed on a large four-story and basement warehouse for the Saalfield Publishing Co., Akron, publishers of popular priced books and other printed material, distributed chiefly through department stores and the country's large chain store organizations. The present project brings the company's total floor space in Akron to almost 400,000 sq. ft., according to A. G. Saalfield, President.

The building, designed and being built by The Austin Company, will provide a total of 133,600 sq. ft., most of which will be utilized for the storage of books and other printed matter. One section will be occupied by offices.

Constructed of brick and reinforced concrete, with an unusual exterior, having horizontal runs of steel sash and art stone to emphasize its modern streamlined architectural details, it will have stainless steel canopies at the entrances. The interior layout will provide maximum utilization of the warehouse and shipping area, at the same time allowing ready access to the stock embracing 1200 different titles.

ADJUSTABLE LINOTYPE CHAIR

No. 15-19 Adjustable Linotype Operator's Chair — Has large comfortable hardwood saddle seat. Wide curved steel perforated back rest. Steel frame, rigid and well braced. Seat is adjustable for both height and tilt. Natural finish seat and green steel parts.

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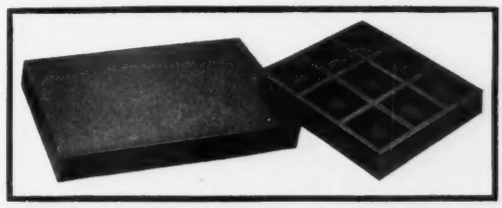

● Fill up the form in a hurry—throw in the required sizes of Challenge "Sta-Rite" Bases—lay unmounted electrotypes, halftones, or zincs on top (no hooks or catches necessary)—give the quoin key a final twist—and you're ready to go!... Made from fine-grained steel alloy castings with utmost precision, these bases may be had solid or cored, as specified. They will not dent or bruise and are not injured by tight locking or heat. Accurate, rigid, non-shrinkable, and indestructible, they are a permanent, time-saving, cost-cutting addition to the equipment of any shop. The cored bases are lighter in weight, and the strong ribbing on the under side of the base provides a positive support that will not allow plates to "give" or sag under the heaviest pressure. Write today for complete descriptive data. Without obligation to you.

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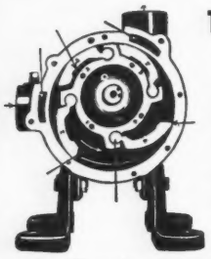

THE SUCTION THAT LIFTS THE PAPER IN ALL SORTS OF FEEDERS

They are also used for blowing to loosen up sheets of paper on a pile feeder, and we have strainers to prevent oil from spraying on the sheets.

The printer also uses these pumps for cooling linotype molds and for blowing dust out of the working parts of machine and out of type cases.

The electrotyper uses the air for agitating his plating solutions, and these pumps are found in almost every plant doing this work. All sorts of shops use them for all sorts of air using devices.

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In the big shops, especially in the newspaper plants, these pumps operate the stereotype furnaces creating high heats with gas or oil as fuel.

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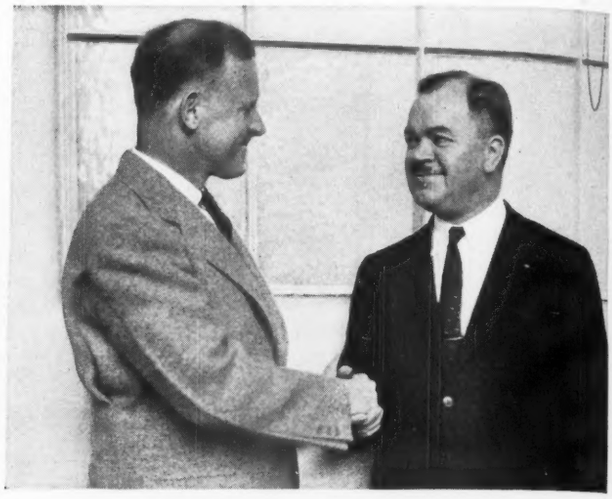
AMERICAN TYPE FOUNDERS
Branches and Sales Agents in Twenty-Five Cities

APPOINTED ATF MANAGER

Major Sidney N. Raynor, U. S. Marine Corps, retired, was appointed Manager of the American Type Founders Sales Corporation's Detroit Office, July 1. Herbert Reed will be Assistant Manager.

During his service in the Marines, Major Raynor acquired a wide knowledge of the printing and allied trades while he was managing



General Sales Manager Frederick B. Heitkamp wishes Major Sidney N. Raynor (right) good luck in taking over the Managership of American Type Founders Sales Corporation's Detroit Office.

the Government Printing Plants at Quantico, Va., and Philadelphia. He is familiar with the technical as well as the commercial requirements of the printing business since his work included writing as well as supervising the publication of Marine Corps text books and directing the entire production.

NEW EASTERN REPRESENTATIVE

W. H. Palmer, who has had many years' practical experience in the printing world, is now representing the Mergenthaler Linotype Company in Maine and parts of New Hampshire and Massachusetts.

At one time he worked for the Montreal *Daily Mail*, and in 1915 be-

W. H. Palmer travels in New Hampshire and Massachusetts for M. L. Co.

came a Linotype service man in the province of Quebec. From 1919 to 1924 he served in the Maritime Provinces and in Newfoundland.

He was a Linotype serviceman in New England until 1933. During the following four years he operated on his own as a Linotype machinist.

Slurs

(*Continued from Page 30*)

Paper Slurs

Since uniformly flat sheets cannot be expected until air conditioning and paper seasoning become common in print shops, the importance of setting the bands and the brush just right for the thickness of stock going through cannot be overstressed.

At times, the sheet may be ironed out more effectively by inserting a strip of heavy paper like manila tympan or a thin cardboard between the bands and the cylinder. Sometimes it is necessary to keep the sheet in contact with the drawsheet all the way. An effective and safe way is to secure one end of a tape on the band rod. carry it, through a margin, under the cylinder and on through a staple in the under side of the rear end of the feedboard and attach a weight to the end of the tape sufficient to hold the tape close to the cylinder. This allows play for the tape to follow the cylinder and if it breaks it will fall behind the rear end frame of the press.

Rule Slurs

Slurs on rule and border forms are caused frequently because the border is not level and type high and on the rules because the height at which rules print is not taken into account during makeready. Made of a metal harder and less yielding than type, hairline and one-point face brass rules will print when under type height, two-point when type high, three-point parallel and heavier rules at type height or higher. If the difference is not noticed in makeready and if the impression is not even in a lengthwise direction a mysterious (?) slur may result.

Smooth Roller

(*Continued from Page 53*)

Smooth Roller Benefits

Undoubtedly a cut in washup time as well as clean colors have resulted through the use of the smooth roller. Its introduction has improved the quality of the work. Actually, the advent of the finer process work necessitated the introduction of these smooth composition rollers. Their soft nature presents a tack and pull which will faithfully reproduce every tint of the image. A smooth, even lay of color is assured with a minimum of full strength color; thus contributing greatly to the prevention of set-off on the back of the sheet.

Short editions with many changes of color are very readily printed with composition or rubber rollers. Leather rollers would increase the makeready time by at least 50%.

Light setting of the form rollers to the pressplate, accompanied by just as light a setting to the distributors, will aid greatly in composition and rubber roller printability. It is also essential for their preservation. A tight setting distorts the roller material and very often causes cracks, looseness on the ends and pitting.

It is necessary to revive the composition and rubber roller surface from time to time, so that the hard ink

Technical Books

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New book by authority on all phases of letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts. $3.00 per copy, cash with order.

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ETCHING MACHINE
for 11"x14" plates sells at $225.00 with Driving Motor and Wash Tray.
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SPACEBANDS—75c each
Sizes available: Regular, Teletype, Thin, Extra Thin and Jumbo
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may be removed and the glazed surface with it. The roller companies distribute a paste form of cleanser which aids materially in this cleaning. This revives the suction and tackiness of the composition rollers.

Summing up, then, the smooth composition or rubber roller has admittedly benefited lithography through raising the standard of the work, making possible the use of improved methods, besides cutting production costs through shorter washup time, shorter meakeready time and cleaner colors.

Hazards

(*Continued from Page 54*)

of extinguisher blankets the fire with carbon dioxide gas which prevents its spread while actually freezing the fire. It leaves no mess to clean up; equipment is not ruined and work can immediately be resumed.

Acids

Nitric acid is used in practically all engraving plants and while other acids are used to some extent, nitric is used in large quantity. Carboys occasionally break and if the old style open carboy is used and the acid floods the floor the first precaution is for every one to get out of the room after opening all windows. Sawdust or other waste material should never be used to mop up the floor.

For some years a safety acid carboy has been in use and, while not as convenient to handle as the older type square box carboy, one can overlook a slight disadvantage in this respect. This container is barrel shape, coated with tar and filled with powdered mica between the glass carboy and the staves. In case of breakage, the leak is slow and it can be removed to a drain before any damage is done.

Neutralizers

A neutralizer should be thrown over the acid, sufficient to kill the effect of the acid and then the mess should either be mopped up or washed down the drain with plenty of water.

Neutralizers such as soda bicarbonate and soda ash are excellent. Another material is under test in the Graphic Arts Research Laboratory and this material seems excellent for this purpose and also for use to neutralize acid baths before running the bath into the drain to prevent corrosion of drain piping.

Reviver

It is excellent practice to keep a bottle of solution on hand so that anyone who has inhaled an excess of acid fumes can take a quick whiff and clear his lungs immediately. This is made up with equal quantities of ammonia and alcohol.

(*To Be Continued*)

Pressroom Superintendents

If you have devised some new production kink, other mechanical executives will be glad to hear about it through the editorial columns of *Printing* Equipment *Engineer*. Just write about it with pencil on any kind of paper. We suggest this because mechanical executives dislike formalities when discussing production matters.

Technical Literature

For August, 1937

1—*Greater Lighting Efficiency*, illustrated booklet published by the General Electric Vapor Lamp Company, gives facts and figures about the newly improved horizontal Cooper-Hewitt lamps; improvements of the lamps over former models, such as increased light output per watt, instantaneous starting, horizontal suspension, greater operating stability, the highly efficient reflector and the new simplified design. In a section of Engineering Data, valuable information is given for computing the proper spacing of Cooper-Hewitt lamps to obtain any given illumination level. Ask for Bulletin No. 520. *P-Double-E File No. 1GG.*

2—"This Broken Mold Disk Can Be Rebuilt" is title of circular explaining process for rebuilding Linotype disks. *P-Double-E File No. 1G.*

3—Folder contains preliminary informal showing of three new Ludlow typefaces: Coronet, Stencil and Karnak Black Italic. *P-Double-E File No. 1G5.*

4—*Brighter Setting By a Simpler Method*—Clear-cut description, which by the way is reprint of an article appearing in *The Newspaper World* (London); describes in detail the Ludlow method of composition.

5—*Neoprene, An Engineering Material* with rubber-like properties, is described in detail in a new handbook published by Rubber Chemicals Division, E. I. du Pont de Nemours & Company. Of special interest is a summary of the method of making neoprene and its chemical composition. Specific applications of neoprene, printing rollers, including hose, electrical cable, molded parts, extruded material, sheet goods and gaskets are also described, with data on reasons for the use of neoprene in these applications. *P-Double-E File No. 5NN.*

6—*Monastral Fast Blue BS* is title of a new booklet defining the uses of Monastral Fast Blue BS just issued by the Dyestuffs Division, Organic Chemicals Department, the Du Pont Company. The booklet treats of the uses of this new pigment in printing inks, coated paper, paper and other industrial uses. In several instances samples of the use of the new shades are carried in the booklet.

7—*Booklet*—The Krebs Pigment & Color Corporation has just issued a booklet giving a summary of the properties and uses of Krebs Titanium Pigments. In addition to classifying the titanium pigments produced by that company, the booklet also shows the various grades of each by trademarked name and the uses to which each can be put.

8—*Now! Shave Plates at Low Cost*—Circular illustrates and describes small rotary plate shaver for stereos, electros and stereotype and wood base.

Printing EQUIPMENT *Engineer*,
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THREE-STATE REPRESENTATIVE

The E. J. Kelly Company of Kalamazoo, Michigan, printing ink makers, announce the appointment of the Godwin Roller Company of Baltimore, Maryland, as their distributor in the states of Maryland, Delaware, and Virginia.

The Godwin Roller Company maintains a complete stock of colors and the Wotta Blacks for immediate delivery and service. Mr. Charles O. Monk is in charge of this newly formed ink department.

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USE THE P-DOUBLE-E FILING SYSTEM

Budgetary Control

(*Continued from Page 4*)

in your ledger and the amounts chargeable to the department listed therein. The columns are totaled for each year.

We are now ready to make our budget for this group of expenses, which is a very simple matter. Take into consideration any increases or decreases in taxes, insurance, etc. The management should be interested in the "Fixed Charges" cost per page and the variation of this cost month by month and year by year and whether or not the annual cost per page is increasing or decreasing. A very good graphic chart can be drawn from these figures showing the trend of this expense for which the management is directly responsible.

Variable Overhead Expense Group

The next group of expenses to be studied is the "Variable Overhead Expense" group. The procedure is the same as in the "Fixed Charges" group, month by month and year by year. Head a column for each of the following: Power, Heat, Lights, Water, Supplies, Repair Parts, Matrices, Compensation Insurance, Social Security Taxes, Depreciation of Composing Machine Metal, Share of Administrative Expense (the last two may be included in the Fixed Charges group, depending upon your method of handling these accounts, whether an arbitrary amount, or a percentage is used).

Under these headings list each month's expenses being sure that the total of the group balances with your books. Unless your books allocate these expenses to departments in the proper classifications you will have to set up the classifications and allocate the expense proceeding as was explained in the previously referred to article on Control of Overhead Expense.

The per page cost for the group and for each classification by months and years and the trend should be calculated and the budget for each month of 1938 formed in the light of the number of pages you expect to produce. It must be remembered that this expense does not vary in direct ratio to the number of pages produced, therefore a definite sum must be budgeted for each month and the responsibility for selling not less than this number of pages placed on the advertising department. If a correct budget system is used throughout your newspaper you will, of course, have a sales budget as well as expense budgets.

If the number of pages produced is less than the number estimated it is in no way the mechanical superintendent's responsibility and he should not be criticized if the per page cost of this group is more than expected unless, of course, he has exceeded his lump sum budget.

If the pages produced are more than estimated the per page cost will be definitely less than expected and he may even exceed, slightly, the lump sum budget without being open to criticism.

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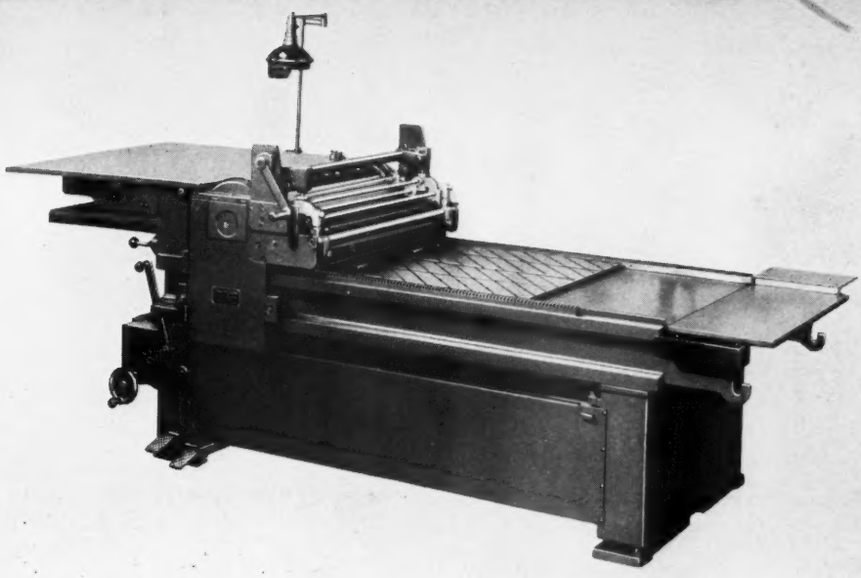

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in your composing room makes

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Most important of all, **profitable** pre-makeready requires the use of a press that is easy and fast to operate — that **quickly** shows up plate and type defects — and permits their correction in the shortest possible time.

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STREAMLINE

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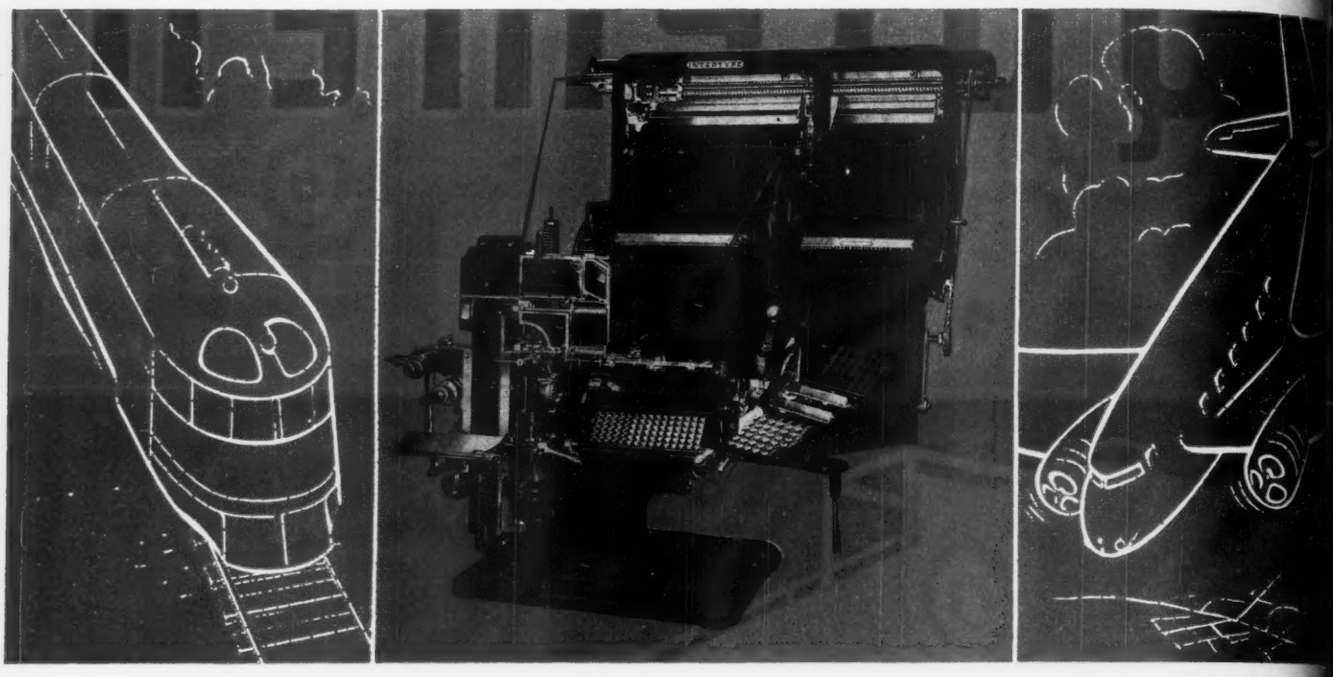

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